COMMODORE

COMPUTING INTERNATIONAL

DECEMBER 1987

SPEEDING TO A NEW ENTERTAINMENT DIMENSION — ROADWARS!

SHOWTIME! PCW AND AMIGA EXPO

128 SPECIAL

C64 AND C16 MEGASTARS OF '87

HINTS AND TIPS

GRAEME KIDD EX-CHIEF, ZZAP! SPEAKS OUT...

AMIGA — SPECIAL SECTION

£1.10

BELGIUM FR1.30
USA $3.25
CANADA $3.50
GERMANY DM7

TAKE CONTROL — JOYSTICK FEATURE

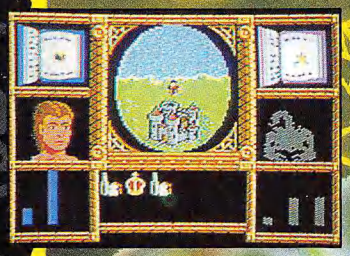
WIN! AN AMIGA 500 AND MORE GRRREAT PRIZES

VENTURE INTO THE MYSTICAL MEDIEVAL DARK AGES IN

WIZARD WARZ™

A game that takes fantasy role playing one step further. You will experience all the action as you do real battle with your opponents. To prove yourself worthy of becoming chief wizard you must do combat with horrific monsters and cleverly outwit devious wizards with your spells collected through time. Witness the superb graphics that set Wizard Warz apart from other strategy games and view through a circular screen that diminishes as your health weakens and makes your goal harder to achieve. See the effect of your spells as they hurtle across the screen in Wizard Warz combining fast moving action with depth of gameplay in a true fantasy role playing game that's a real strategical challenge.

Eye of Newt
Blood of Rat
Bring Me The Powers of Vision & Combat!



screen shot from CBM version

COPYRIGHT 1987
CANVAS SOFTWARE

CBM 64/128
£11.99 DISK
£9.99 TAPE

AMSTRAD
£14.99 DISK
£9.99 TAPE

SPECTRUM
48/128K
£8.99

ATARI ST £19.99

GO!

TOMORROWS SOFTWARE TODAY

GOI Media Holdings Ltd., Units 2/3, Holford Way, Holford, Birmingham B6 7AX. TEL: 021 356 3388

THE ULTIMATE AERIAL EXPERIENCE!

NOW AVAILABLE FOR YOUR COMPUTER

All the thrills and skills of real skateboarding in this unique challenge to become champion of the skating world. Starting out from 'Skate City' test your abilities amongst the numerous skateparks, improving your techniques both in freestyle and competitive action as you attempt to complete the ultimate manoeuvre – the 720 degree twist while soaring through the air.

720°™

U.S. GOLD AI American Software

ATARI® GAMES

CBM64/128
£11-99 Disk
£9-99 Tape

Spectrum
£8-99 Tape

Amstrad
£14-99 Disk
£9-99 Tape

Screen shots from Arcade version.

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, BIRMINGHAM B6 7AX. Tel: 021 356 3388

720° Trademark & copyright 1986 Atari Games Corporation. All rights reserved. Licenced to U.S. Gold Ltd., Units 2/3 Holford Way, Holford, BIRMINGHAM B6 7AX.

188 PAGES – THE COMMODORE MAGAZINE THAT'S GOT EVERYTHING!

Inside

COMMODORE COMPUTING INTERNATIONAL

DECEMBER 1987

CCI View 5
News 6, 7, 8, 13, 14
Readers Letters 15, 39, 40
Communications 16, 53
Personal Computer World Show – Feature 18, 19, 20, 22, 24
Easy Music Series 29, 30, 32
CBM's Euroboss – Feature 38
Commodore Covers 44
Burst Mode Series 46, 47, 48
Fontmaster 128 – Review 54, 55
Value Calc – Review 55
Opinion – Zach Skinner 56
AMX Mouse offer 58
Hysteria – Review 60, 61
Opinion – Graeme Kidd 62
Compilations – Reviews 64, 65
EOS – Review 66
Druid II – Review 68
Power Plus – Review 70
Micro Rythm + – Review 70
Solomon's Key – Review 72
CCI Books Offer 76
Red Led – Review 80
Programs Request 81
Competition – Mega Apocaclypse 82
Summer Events – Review 84 85
Super Felix 86, 87
Indiana Jones – Review 88
Take Control – Feature 90, 91, 93, 95
Charts 96
EA Previews 98
Horgan's Hints 101
Bubble Bobble – Review 102
Impact – Review 104
Jack the Nipper II – Review 106
Nebulus – Review 107
Adventure 106, 109, 110, 112, 113
Terrorpods – Review 115
David Morse – Feature 118, 119
Firepower – Review 121
Roadwars – Preview 122
AmiExpo – Feature 126, 128, 129
Ogre – Review 138, 139
Express Paint – Review 136, 138
Amiga User Group 142
SDI – Review 144
Anco Previews 146
Looking Back – Amiga Products 149, 150, 151
Zing Keys – Review 152
Amiga – New Releases 154
Amiga 500 Competition 157
CCI Subscriptions 158
Megastars '87 – Feature 162, 163
Timeworks Readers Offer 166
Programs 168, 173, 174, 175, 176 178, 180, 181, 182
Classified Advertisements 183
CCI Covers 184
Books Page 185
Advertisers' Directory 186

CCI View

Dear CCI,

I am writing regarding a letter published at the end of your letters section in the November issue. The point of the letter was to totally put down the Atari ST computer. You qualified the letter at the start by saying it is not the normal policy of CCI to publish letters about other machines. I wish you had not made an exception for this letter.

I am the very proud owner of an Amiga 500, as well as being a long standing user of a C64. I, like many others, am fiercely loyal to Commodore but at the same time I appreciate that there are other computers manufactured by companies, whose names do not start with a "C".

There is far too much animosity in computing, both regarding different machines and also between rival publications. Is it too much to ask that we all just get on with enjoying our own computers, chosen by each of us for our individual needs and preferences? It is pointless to try to impose our own choice on others. I personally consider the Atari a very good machine and would ideally like to own an ST as well as an Amiga. This view does not in any way affect the pleasure I get from my Amiga and C64, so I believe the world is big enough for both machines.

Keep up the good work on a magazine I look forward to each month. Forget the vendettas and just concentrate on the joys of owning a Commodore.

Yours Hopefully,
Trevor Cobbe, Leeds

P.S. Keep up the excellent competitions!!!!!

Dear Trevor,

Some people love sitting in front of a computer screen fighting off waves of threatening aliens or competing joystick to joystick with an opponent. Others relish taking part in bigger games in which their living, if not their lives, may be at stake. The rivalry between computer companies — as between computer magazines — is that kind of big game. Between Commodore and Atari — and others competing for the market "winning" can mean professional survival.

The people who work for these companies know each other and their competitive strategies well. Bob Gleadow and Paul Welch, who run Atari UK, worked for CBM. Jack Tramiel, Atari's owner, ran Commodore for years. It is natural that they should be driven to show they were right and CBM wrong and that present Commodore people should try to come out on top. You comment that "there is far too much animosity in computing". It isn't so much animosity but competitive spirit. When computer people meet at shows like PCW, they are on friendly terms. But big money — and people's careers — are at stake if the ST can replace the Amiga in wholesalers, retailers or on the user's table. So the relationships may be friendly but the rivalry is in deadly earnest.

While you may believe that the world is big enough for both machines — and in reality that is probably true — no-one lets themselves believe that in the computer companies for fear that effort will lessen and the "game", and maybe their jobs too, will be lost. Business, someone said, is the best game in town. But there are winners and also losers...

As for rival computer magazines, there is a similar competitive feeling. Not only do we compete for the Commodore owning audience and the advertisers selling to them, that fierce loyalty for CBM you mention, spreads to our own publications too. We resent magazines that copy our original ideas. We despise publications that seem to debase the Commodore scene. But we admit that we eagerly examine these rivals to see if they have outdistanced or out-thought us in the race to provide you with the coverage of what you will find interesting.

When we meet at press conferences and so on, we also compare notes, in a friendly way, on new products and trends in the industry. Once again not so much animosity as competition. So when you recommend "forgetting the vendettas", you are right — but only in part. Whether it is selling computers or magazines, sometimes to overcome obstacles and beat the opposition often it can only be done by what Werner von Braun described as the key ingredient in the U.S. success in putting a man on the moon — **Will**. That will often comes only from a positive commitment to a goal or a cause, which in human terms may mean setting a target or challenging an opponent. To do that we have to convince ourselves and others that our choice is right and someone else's option is wrong. The competitive spirit may not be entirely admirable but it can prove extremely effective...

Interestingly, your P.S. says "Keep up the excellent competitions". Competing even in CCI means beating others. And I'm sure you agree that while competing may be fun, winning is the best fun of all!

Yours sincerely,
Antony H. Jacobson
Managing Editor and Publisher

Managing Editor and Publisher ..... Antony Jacobson
Features Editor ....Anthony Mael
Subscriptions Controller ..... Sandra Gallagher
Marketing Manager ..... Max Jacobson
Production Manager ..... Keith Miles
Senior Advertisement Manager ..... James Mack
Advertisement Manager ..... Billy Brown
Advertisement Executive ..... André Jacobson-González
Finance Director ..... B.J. Lewis M.Sc. F.C.A.
Consultant Art Editor ..... Graham Baldock
Artwork..... Beverley Skinner
Contributors
..... Tony Horgan
..... Zack Mule Skinner
..... Courtney King
..... Daphne Moss
..... Bud Vennos
..... A. Cloke
..... Bob Chapell
..... Bob Colyer
..... Graeme Kidd
..... Mike Garamszeghy
..... Jeff Minter
..... Andy Moss
..... Ian Waugh
..... Kevin Stephens
..... G. Catteley
..... Len Keighthly
..... Jonathan M. Littlewood
..... A. Eskelon
..... Tony Lydiard
..... Ian Bennett
..... Peter Gerrard
..... Richard Franklin
..... Hugh Riley
..... Peter Lee
..... Richard Hunt
..... Jack Cohen
Telephone 01-278 0333
Editorial ext: 274
Advertising ext: 280/266
Subscriptions ext: 274
Published by Croftward Limited
Finsbury Business Centre
40 Bowling Green Lane
London EC1R 0NE
Distributed by: Comag, Tavistock Road, West Drayton, Middx UB7 7QE
Printed by Chase Printers Group
Typesetting: Carlton Barclay

© Croftward Limited 1987

CCI FREE SOFTWARE OFFER.

THE PERIOD FOR WHICH THIS OFFER WAS VALID HAS NOW ENDED.

DEC Hackers Attack

A major breach of the Dec VMS operating system by West German hackers has called into question the security of operating systems of all the major computer manufacturers.

A team of hackers penetrated a top security computer network linking the US space agency Nasa with research centres in Europe and Asia.

Six hackers aged between 18 and 25 broke into Dec's 'state of the art' 4.4 and 4.5 versions of VMS by finding an error in the operating system software which let them enter the networks of 135 top computer centres.

They planted 'Trojan Horses', which are command signals that give free access to files and the ability to change programs or files.

The VMS operating system had been given top level security clearance by the US National Computer Security Centre.

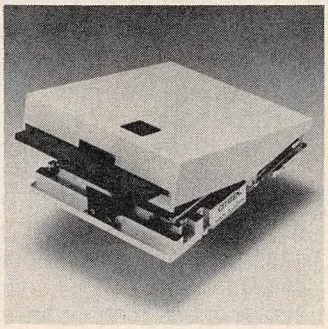
Experts fear the system's complexity creates weaknesses that can be exposed.

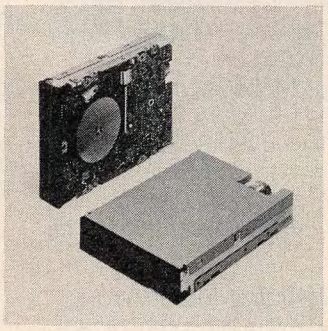
They are also concerned that some users of the system ignored 'patches' Dec sent to plug weaknesses in the operating systems some months ago.

Amiga-64 Printlink

Trilogic have come up with something which should please all those C64 and 128 owners who have just upgraded to an Amiga. Instead of pensioning off your CBM serial printer — MPS801 etc our Printlink system takes the output from the Amiga's printer port, channels it into your redundant 64 or 128 via the USER port and from there to the serial printer.

Cartridge software means that no TV or monitor is needed — just connect the lead, insert the cartridge and switch on. Function keys control the various features of the Printlink system. The 64s memory makes a good printer buffer too. Price: £39.95.





Citizen Launch New DDs

Citizen Europe Ltd, have announced the launch of two new ranges of competitively priced 3½", 1" high floppy disk drives.

It is forecast that the world market for 3½" floppy disk drives will exceed 21 million units by 1990, (9 million in 1987). Half of today's total production is in the 3½" format, the 5¼" market share is declining rapidly, so much so that by 1990 3½" drives will account for over 80% of world production.

Already Citizen account for 4% of the world market for floppy disk drives and enjoy 9.5% of the 3½" market — third behind Sony and Alps.

The new Citizen ranges, called the OS series and the OT series incorporate high performance, top reliability and large memory capacity with flexibility and ease of use.

Within the OS series (front loading) and the OT (top loading) Citizen Europe offer eight models.

Memory capacity ranges from 2MB, 1.6MB to 1MB with top models (OSDA) switchable between 2MB and 1MB unformatted and (OSDB) switchable between 1.6MB and 1MB unformatted.

All Citizen Europe's drives have 135 TPI and access times range from 3 to 6 msecs with settling times standard at 15msecs.

The drives operate on a single power supply of 4.75-5.25V and also benefit from low power consumption (read/write 1.8W, standby 25W) — an important factor for portable computers users.

Bugbyte's Defcom!

Although President Reagan may be having difficulty in persuading his allies to assist in the development of his 'Star Wars' defence, Bug Byte have managed to program the details into their computer and the result is Defcom.

Defcom, Bugbyte says, will put your shooting skills to the test as you take command of an Eagle Class E751 fighter plane fitted with a single beam laser. Your mission is to re-gain Earth's Satellite system which is currently occupied by unknown alien forces. As you blast these aliens to smitherine — gain 1000 points and this weapon will be exchanged for a Double Wind Beam, Ultra High Power, Special Purpose Laser, which you can use as and when required.

You have them on the run — or do you? You've used the Special Purpose Laser to great effect but too much, your energy is depleted, your defence shields are failing. All is not lost as you have gained a further 1000 points and now have one extra anti-satellite homing missile and one charge of, debris shattering, grape shot, use it sensibly or your mission is doomed to failure!

Every additional 1000 points, up to 5000, gained as you progress through the game will introduce a new weapon to your arsenal. The alien forces have a whole range of craft with differing weapons, speed and flight patterns — so this is not going to be simple.

Defcom is on Commodore 64, price £2.99.

Create an Automated System

Superbase Professional's Database Management Language (DML) has been devised to make it easy for even the non-programmer to create powerful applications while at the same time offering an astounding 200 commands.

Simple routines can be built up to become complex programs until a fully automated database system is created.

At the highest level, replacement pull-down menus can be produced and many other customising features such as personalised pop-up selection panels are available.

To make programming even more simple, a full screen editor has been included. There is also an option to protect work from prying eyes by encrypting programs.

It comes from a company greatly experienced in the business field, with more than half a million users of its productivity software worldwide.

For further information please contact Ian Byfield on 061-456 8383.

Mask II

The second of Gremlin's exclusive 'Mask' products featuring every adolescent's hero — Matt Trakker, who appears on UK TV every Sunday morning.

Mask II has been accurately portrayed and brings new depths to the adventures of the Mask team. This game includes four separate adventures within the one game.

The action is divided into two main challenges. Firstly the alert section and the selection of your team and vehicles followed by completion of the four main missions, during which the player must exercise expertise in choosing when to transform etc.

Mask II features exhaustive locations and vehicles, and offers a challenge to gamers of all inclinations.

Commodore 64/128K cass £9.99 and disk £14.99.

Simpler Data Protection Registration

To make registration simpler for small businesses, the UK Data Protection Registrar is issuing a new, shorter registration form.

The form identifies the four most common computer applications — personnel and payroll; marketing (including direct mail); purchase ledger; and customer and sales records. There is also provision for a Data User to add other activities not covered by these four, if necessary.

Direct mail will be used to distribute the forms to more than 200,000 small businesses.

Gremlin's Deflektor

No heroes. No foes. Only pure skill and technology, says Gremlin, as you guide your lazer beams through a sea of danger, a pyramid of obstacles reflect it from mirrors, bounce it off walls and deflect it through lenses.

The players must forever calculate the angles, carefully judging the beam's path towards the home receiver. After that, another fifty nine levels of frustration and mind boggling intrigue. Gremlin says it's addictive, compulsive and only for those who can withstand defeat.

Commodore 64/128K cass £9.99, disk £14.99.

Electronic ads

A new electronic medium is being introduced to 1,000 post offices around the country.

Post Office Nu-Media Adcasters — 4′ × 15″ screens featuring LED displays — are being installed now, and all 1,000 should be running by the end of the year.

They can each be individually addressed by a central computer, allowing daily changes.

A 20-second ad running nationally for four weeks (the same ad repeats every 15 minutes) will cost about £13,000.

PC Sales to Slow

Demand for business personal computers is set to slow as the market becomes more mature, according to a report from Romtec, the market research consultancy.

The business personal computer market has recently experienced explosive growth. Romtec's report says that the average annual increase was 38 per cent by volume and 33 per cent by value between 1983 and 1986.

However, Romtec is now forecasting average annual growth rates of 8 per cent by value and 17 per cent by volume between 1986 and 1991.

Average prices are also set to fall by 30 per cent between 1986 and 1991. This compares with a 7 per cent fall between 1984 and 1986, when increased sales of more powerful machines compensated for price reductions by the suppliers.

In 1986, 316,000 business personal computers worth £873m were sold in the UK.

UK Business Microcomputers, Romtec, Hattori House, Vanwall Road, Maidenhead, Berks.

Aussie at Compec

Australian designed and developed computer hardware and software forms an impressive technological array of products at this year's Compec '87 exhibition in London.

A total of 10 Australian companies with from business software packages and operating systems, text and image retrieval systems, through to high speed laser printers.

The laser printers are being manufactured and marketed by the new joint venture company **Gestetner.** The range includes the LS800 which operates at eight pages/min and offers users multiple fonts and graphics and memory upgrade paths. Also available from Impact Systems is the L2000, a heavy duty page printer which operates at 20 pages/min. Emulations include; Diablo 630 and 630ECS, Qume Sprint 5/9, NEC 3515/8815, Epson and IBM.

Australia's **Micro** show its system for the control of food and beverage sales. This company has also developed an Inventory Debtors system and Retail Point of Sale packages. The packages run on IBM compatible systems.

Also available for IBM compatibles is Easyquote, a vehicle body repair quotation system developed by **Computer Brokers PTY.** With this package the preparation of detailed quotes, management reports and the control of invoices and debtors list are considerably enhanced.

The technical capabilities of Orion from **Interactive Engineering PTY** are designed to make maximum use of knowledge bases. This software handles and structures stored knowledge via logical calculation and algebraic and logical manipulation.

Manipulation of a different kind is possible with MULTI-DOS from **Microframe Software.** This operating system will convert a microcomputer, through the addition of screens, terminals and keyboards, into a multi-user/multi-tasking system. The completed system is able to offer several users a share in the original microcomputer's resources, including memory, disk drives, printers and modems.

Greater productivity is also the philosophy behind the development of three software packages from **ODC PTY.** Odyssey is a productivity planning tool which allows personnel to plan their daily activities via a micro.

Also from ODC is Practice, a program for medical finance and billing control. It also serves as a database of patient history files.

Computer Services of Western Australia have a software package for the real estate and finance industries, service stations and point of sale.

There is a software package available from **Power Software PTY** — an accounting applications generator which can be modified via a configuration utility to suit any business need.

The package runs on IBM PCs or compatibles and a multi-user version is available when installed with Novell, 3COM plus and other DOS 3:1 networks.

There is a text and image retrieval software is the speciality of **QCOM PTY.** The Corporate Retriever package from this company now has 100 users in the UK. It will search out numbers or word phrases or a combination of these. Just Imagine is the other package from QCOM PTY. This uses TCR to retrieve images which are stored on CD-ROM or optical disk.

Final exhibit from the Australian high technology contingent is **Stowe Computing** Australia. Total corporate book library management and property management systems are the speciality software systems marketed by this company.

For further information please contact: Nick Johnstone Campaign Communications. Tel: 01-658 0131.

Messaging's Bright Future

The use of electronic messaging will double by 1993, according to a report from Logica Telematica.

The report says the number of connections will increase to three million over the next six years. But the demand for new electronic messaging services is for facsimile and X.400 facilities rather than telex and teletex terminals. The X.400 standard allows users of different mailing services to communicate with each other.

Telex presently accounts for over 70% of the number of connections, but this is expected to fall to less than 25% by 1993.

Mini Office for USA

Mini-Office is to be sold in the USA following an agreement made by Database Software with US company ShareData.

The agreement gives the UK company distribution to some 22,000 outlets in the US. It will launch its own packages Mini Office and Desk Top Publisher through ShareData, and also hopes to licence other UK and European product for US marketing and distribution.

Database's Michael Meakin said that there will also be a US Database company based in Phoenix, Arizona.

"Database Sofware Inc will be moving as much UK and European softare in the US as possible, and we'll be looking for really good product to market over there. Our products will be part and parcel of the deal. For example we'll be doing a PC version of Mini Office — there's nothing around that is like it in the US."

Trilogic Grows

Trilogic have moved to bigger premises — their new address is below — and are creating a flow of new products.

The 3.1 Expert

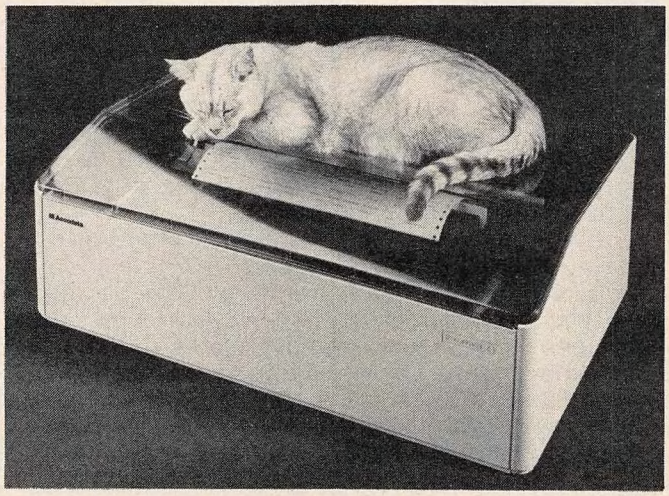
Trilogic have announced their new 3.1 version of the popular cartridge — The Expert.

Version 3.1 incorporates some new features: Icon driven main operating system; improved machine-code monitor; help key for instant on-screen help; dual screen facility — instantly switch between two screens; 2-pass assembler; label generating disassembler; Expert RAM pack pack compatible.

All the previous V2.10 functions such as hires screen grabber, sprite extractor and editor are incorporated.

Upgrading to the V3.1 (disk or tape) costs £3.50.

Trilogic, Unit 1, 253 New Works Road, Low Moor, Bradford BD12 0QP. Tel: 0274-691115.



9 out of 10 pussy cats prefer . . . Accodata.

Accodata's Printer Mufflers

Accodata has launched two new low-cost lightweight acoustic hoods for most 80 and 132 column back and bottom feed printers which, it is claimed, reduce printer noise levels by up to 80%.

Called 'Printer Muffler', the new hoods are of grey high impact styrene lined with acoustic material and have clear lids/dust covers enabling users to keep a watchful eye on paper flow and ensuring printer output is seen and not heard. Optional stands for both models lift both printer and muffler off the desk top to permit paper storage underneath, prevent damage to printout stocks and give a better paper path.

The 80 column 'Muffler' is priced at £69 with the 132 column 'Muffler' at £75. The optional stands are £21 and £24 respectively. All prices are exclusive of VAT.

Contact: Accodata Tel: 0732 885555.

Trilogic's RAM Pack

These ram packs connect to the USER port, leaving the cartridge port free for existing cartridges. Either 32K or 64K ram versions are available and both types incorporate a Lithium back-up battery.

The ram packs were designed for use with the Expert cartridge and the new V3.1 software makes extensive use of them. For example, several functions can be 'stored' in the ram packs until needed so avoiding the need to reprogram from disk. For tape users, this means that the Expert is almost as fast and easy to use as from disk.

Experienced programmers, many of whom already use the Expert for its powerful and versatile machine code monitor, will no doubt find the 64k ram pack a great asset. In fact, an opportunity now exists for programmers to develop commercial software which could use the added memory to great effect.

Although intended for use with the Expert, they can be used as general purpose memory packs or as small 'ram disks'. Software is currently under development for this. For example, a 64 owner could have two or more of them; storing in them their favourite utilities or games, and either simply inserting one at a time, or switching in the appropriate one via a user port expander.

Trilogic will be running a competition (with 'fabulous' prizes) for the best, most imaginative piece of software to use both Expert and ram pack hand in hand.

The Expert ram pack 32k £39.95. The Expert ram pack 64k £49.95. Prices incl P&P and VAT.

Contact: Trilogic, Unit 1, 253 New Works Road, Low Moor, Bradford BD12 0QP. Tel: 0274-691115.

Ocean goes Madballs

Ocean Software has acquired the 'Madballs' licensing rights from TCFC (Those Characters from Cleveland Inc). These weird and wacky toy characters have now inspired a computer game. The game will bounce into stores across Great Britain and Europe in December for the 64.

'Madballs' is an arcade-action style game featuring the megalomanic 'Dust Brain' (a dried-up mummy head who's not too tightly wrapped). He is a member of the notorious Madballs political party, the current rulers of the planet Orb.

Convinced that his policies are right, Dustbrain sets out on a bureaucrat-bashing exercise to eliminate any opposition. The player adopts the role of Dustbrain, and the objective is to convince the rest of the Madballs to join your team or cabinet. Unfortunately some of the other party members have the same idea. Characters such as Screamin' Meemie and Slobulus indulge in various subversive activities in an effort to thwart the master-plan.

But the way to any Madball's heart is through its stomach — and by controlling the supply of cabbage and fish heads — victory is just around the corner!

Trilogic Products

Trilogic make several different leads to connect a wide range TVs to the Amiga. The 21 pin Euro or Scart socket is the most common type of RGB input and is found on Sony, Philips, Toshiba, Salora, Fidelity, and Hitachi etc. Its leads enable most TVs to display all 4096 colours and the quality is surprisingly good — certainly up to medium res monitor standard in most cases.

The audio lead is also included — stereo in the case of the AL 1 lead. The best results so far have been on the Sony KV1440 and 1442 14" models.

DIMENSION computers l.t.d.

27/29 High Street
Leicester LE1 4FP
Tel: (0533)
517479/21874

THE MIDLAND'S LARGEST COMPUTER STORE

CBM 64/128 and PLUS 4 COMPANIES PACK
Sales/Purchase/Nominal Ledgers with Invoicing and Stock Control, Disc **£24.95**
"Very easy to use — probably the friendliest package I have come across."
— Commodore User

VIZA

Vizastar XL8 64	~~£99.95~~	£79.95
Vizastar XL8 128	~~£129.95~~	£99.95
Vizawrite Classic 128	~~£99.95~~	£79.95

PRECISION

Superscript 64	~~£60.95~~	£49.95
Superbase 64/+4	~~£90.95~~	£39.95
Superscript 64 & Superbase 64	~~£169.90~~	£79.95
Superscript 128	~~£89.95~~	£74.95
Superbase 128	~~£99.95~~	£59.95
Superscript 128 & Superbase 128	~~£189.90~~	£119.95
Superbase, The Book		£11.95

GEOS
CBM 64/128 Operating System Including: Desktop, Geowrite, Geopaint, and Desk Accessories, Disc **£49.95**

GEOFILE
Geos Based Filing System, Disc **£37.50**

COMMODORE 128 COMPENDIUM PACK
Commodore 128 Computer, C2N Data Recorder, Music Maker Keyboard, Spirit of the Stones, Jack Attack and International Soccer Software **£269.95**

AMIGA RANGE

AMIGA A500/CBM MONITOR OFFER
AMIGA A500 with **COMMODORE 1081 HIGH RES COLOUR MONITOR**, Mouse, Workbench, Basic and DPAINT Software **£749.95**

AMIGA A500 PACK 1
with Mouse, Workbench, Basic, DPAINT, TV Modulator, 40 Disc Storage Box, Dust Cover and 10 Games/Utility Discs **£489.95**

PHILIPS COLOUR TV TUNER
For use with any Composite Monitor **£78.95**

AMIGA 1Mb 2nd Drive **£129.95**

AMIGA A2000 SYSTEM

AMIGA A2000 COMPUTER with **COMMODORE 1081 HIGH RES COLOUR MONITOR**
Including 1 year on-site maintenance . **£1259.00**

PHILIPS 8833 COLOUR MONITOR
High Res with Stereo Sound Output **£279.95**

AMIGA A500
Upgrade to 1 Mb **£113.00**

DIGIVIEW 2 Video Digitiser **£169.95**
"Hardware product of the year."
— Amiga developers conference.

AMIGA A500/8833 MONITOR OFFER
AMIGA A500 with **PHILIPS 8833 HIGH RES COLOUR MONITOR** with STEREO SOUND OUTPUT, Mouse, Workbench, Basic and DPAINT Software **£699.95**

COMMODORE 1081 HIGH RES MONITOR **£329.95**

AMIGA A500 PACK 2
with Mouse, Workbench, Basic, DPAINT, Sports Bag with Baseball, Golf and Football, 40 Disc Storage Box, Dust Cover and 10 Games/Utility Discs **£489.95**

OLIVETTI DM105
COLOUR DOT MATRIX PRINTER
Unbeatable on price/performance, the Olivetti DM105 offers the following features:
★ Will faithfully reproduce any AMIGA screen
★ 120 cps Draft, 25 cps Near Letter Quality Modes
★ Prints NLQ, Draft and Graphics in Full Colour
★ Up to 240 Dots Per Inch Graphic Resolution
★ Full AMIGA Compatibility
★ Supported by All Software ..... ~~£412.85~~ **£199.95**
Optional Tractor Feed Unit **£34.50**

1541C DISC DRIVE **£169.95**
1571 DISC DRIVE **£229.95**
EXCELERATOR DISC DRIVE **£159.95**
The above include GEOS, 10 Discs, plus either:
Software Pack A
6 Infacom Disc Adventure Games plus 5 Disc Arcade Games;
Software Pack B
Quick Brown Fox Wordprocessor, Easyfile Database, and Future Finance Planning Package

CITIZEN 120D CBM PRINTER
High Quality Dot Matrix Printer
★ Near Letter Quality Mode ★ 120 cps Draft Print Mode
★ Friction and Tractor Feed ★ Needs no interface
★ Full Two-Year Warranty ★ 100% Commodore compatible **£169.95**

COMMODORE 560P
2-colour Dot Matrix Printer takes $2\frac{3}{4}$in. roll paper ..... ~~£49.95~~ **£29.95**

STAR NL10 Dot Matrix Printer

Commodore Version (with CBM64/128 Printer Lead)	**£219.95**
Centronics Version (with Amiga Printer Lead)	**£229.95**
Commodore 1571 Double-sided Drive	**£239.95**
Commodore 1901 Colour Monitor	**£219.95**
Philips 64/128 Green Screen Monitor	**£89.95**
Commodore 1541C Disc Drive	**£159.95**
Commodore 128D	**£399.95**
Commodore MPS 1000 CBM/Centronics Printer	**£229.95**
Commodore 128 Computer	**£199.95**
Commodore DPS 1101 Daisy Wheel Printer	**£199.95**

WORLD EXCLUSIVE!
UNBEATABLE COMMODORE 64C OFFERS
CBM64C, C2N, Neos Mouse, Joystick, Designers Pencil, 10 Blank Tapes, Monopoly, Renaissance, Scrabble, Grand Master Chess, Cluedo, Adrian Mole, Toy Bazaar, plus 6 Books.
ALSO INCLUDING Software pack 1, 2 or 3 below **£199.95**
PACK 1 — 20 Arcade Games
PACK 2 — 10 Pre-School Educational Tapes
PACK 3 — 28 Secondary Educational Titles

COMMODORE 64C SPORTS PACK OFFER
CBM64C, C2N, On Field Football, Decathlon, Star League Baseball, Barry McGuigan Boxing, The Great Amerian Race, Quickshot Joystick, Commodore Sports Holdall.
PLUS Software Pack 1, 2 or 3 above **£169.96**

CBM 64/128 MUSIC EXPANSION SYSTEM
Including Keyboard, Synthesiser and Software **£75.00**

COMPOSER/EDITOR SOFTWARE
For Music Expansion System, Tape or Disc **£24.95**

ACTION REPLAY Mk III
Tape to Disc Back-up Cartridge **£29.95**

NEOS MOUSE
WITH CHEESE SOFTWARE, Tape or Disc **£24.95**

COMMODORE C2N DATA RECORDER **£29.95**

BLAZING PADDLES
Lightpen/Graphics Illustrator Package, Tape or Disc **£24.95**
"Powerful, well designed — a really sophisticated graphics package"
— Your Commodore

PRINTER RIBBON OFFER

MPS 801, 802 Ribbons	**£5.95**
MPS 803 & MPS 1000	**£4.95**
DPS 1101 Multi Strike	**£3.50**

BUY FOUR AND GET ONE FREE!

PERSONAL CALLERS AND EXPORT ENQUIRIES WELCOME

ALL OFFERS STRICTLY SUBJECT TO AVAILABILITY

ALL PRICES INCLUDE V.A.T. UNLESS OTHERWISE STATED

To order, either send cheque/P.O. with coupon or ring **(0533) 517479/21874** with Access/Barclaycard number. Please allow 7 working days for delivery from receipt of order or cheque clearance.
Please add £1.00 towards carriage and packing on any software order.
Hardware orders add £1.00 under £65.00 value, and £5.00 over £65.00 value.
Printer orders add £5.00 towards carriage.

Send to: Dept. No. CCI 12, Dimension Computers Ltd., 27/29 High Street, Leicester LE1 4FP.
Tel: (0533) 517479/21874 Fax: (0533) 511638

Item	Quantity	Price
.....		
.....		
.....	Total	

Name.....

Address.....

.....

Telephone:.....

NEW AM
NOW OTHER HOME COM

Amiga 500 is here.

With a mind-blowing array of features and capabilities.

And a £499‡ price ticket (ex VAT), hundreds of pounds less than anyone could have predicted.

"...a miracle of compression..." writes *Popular Computing Weekly** "...it all adds up to a formidable system which is clearly better than anything else at the price."

This elegant little machine takes family computing into new dimensions of creativity, excitement and productivity.

It outruns and outguns office PCs as a business multi-tasker, performing a deskful of different jobs simultaneously, at over 7 million steps per second in realtime.

So other home computers may not be the only machines it consigns to the toy cupboard.

AMAZING SCIENCE FACT!

Amiga is used by Disney, Universal and other Hollywood studios for its dazzling 3D graphics manipulation and animation powers.

A sophisticated high-speed graphics processor called a blitter chip transforms images in realtime.

You can paint the screen with more than 4,000 colours. Create and modify designs and effects as you like, with pin-sharp resolution.

You command an almost limitless workshopful of stunning professional graphics capabilities.

With an optional Genlock interface, you can capture images off videotape. Manipulate and mix them with graphics. Then re-transfer them to videotape!

This means you can produce spectacular special effects like those created by Amiga computers for Channel 4's *Chart Show* and the American TV science fiction series *Amazing Stories.*

YOU AIN'T HEARD NOTHING YET!

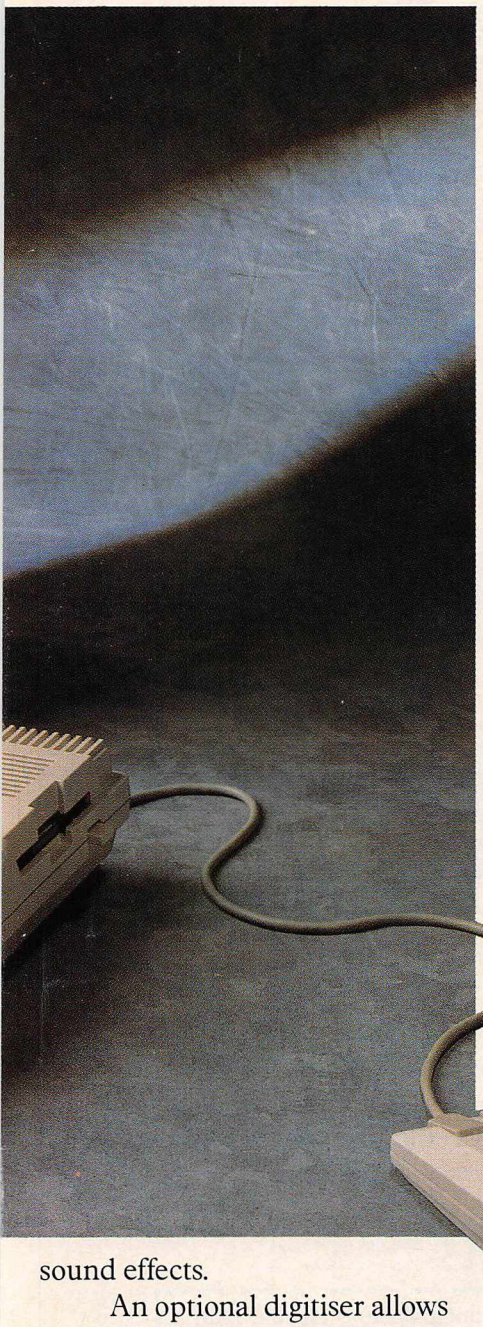
Concealed within the sleek Amiga shape, there is also a pro-quality sound synthesiser and four-track stereo sound system.

Driven by another powerful and unique custom chip, it can synthesise musical instruments and

‡Includes DeluxePaint from Electronic Arts worth £79 + VAT! (Excludes monitor or TV modulator.)

COMMODORE BUSINESS MACHINES (UK) LTD, COMMODORE HOUSE, THE SWITCHBACK, GARDNER ROAD, MAIDENHEAD, BERKSHIRE SL6 7XA. TELEPHONE: (0628) 770088. TELEX: 846057 CBMUKLG.

IGA 500. PUTERS ARE JUST TOYS.



sound effects.

An optional digitiser allows you to take onboard real sounds. Mix and modify the two. Translate your compositions from keyboard to sheet music. Play them back through the monitor's speaker or your hi-fi.

Your Amiga can also synthesise the human voice.

It can speak back anything you care to write on the keyboard.

So this is one computer that can not only word process with faultless professionalism, and incorporate superlative graphics into the text, it can also read the text back to you aloud.

GAMESMANSHIP AND WORKMANSHIP!

The new Amiga 500, in fact, dumbfounds its competitors in every way.

Graphics, stereo sound, multi windowing, multi screens, 512K to 1Mb RAM (expandable by an incredible 8 further megabytes externally**), 3½" internal disk drive with 880K of mass memory, 4 unique dedicated chips plus the 16/32-bit power and 7.14MHz speed of its central processor, communications and vast expansion potential all add up to a computer of immense professional capability.

Yet the same technology allows the Amiga 500 to play games so mind bending that only full-scale arcade machines have been able to play them until now.

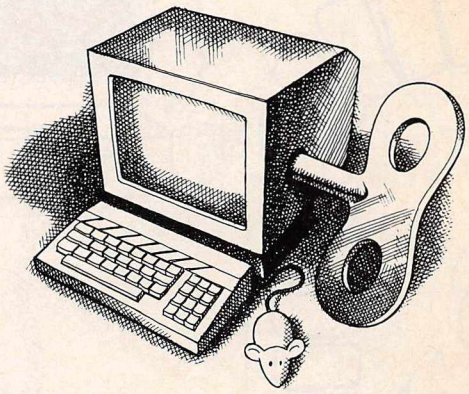
AND AMIGA MEANS 'FRIEND'!

However many of the Amiga's extraordinary talents you find yourself using, they will all be beautifully simple and natural.

You will be totally at home in the friendly and effortless Amiga environment, where everything happens by windows, icons, mouse and pulldown menus.

And the Amiga 500 simplifies life in another way too.

There is now no comparable home computer. At any price.



Try the astonishing new Amiga 500 at your nearest Commodore Amiga dealer.

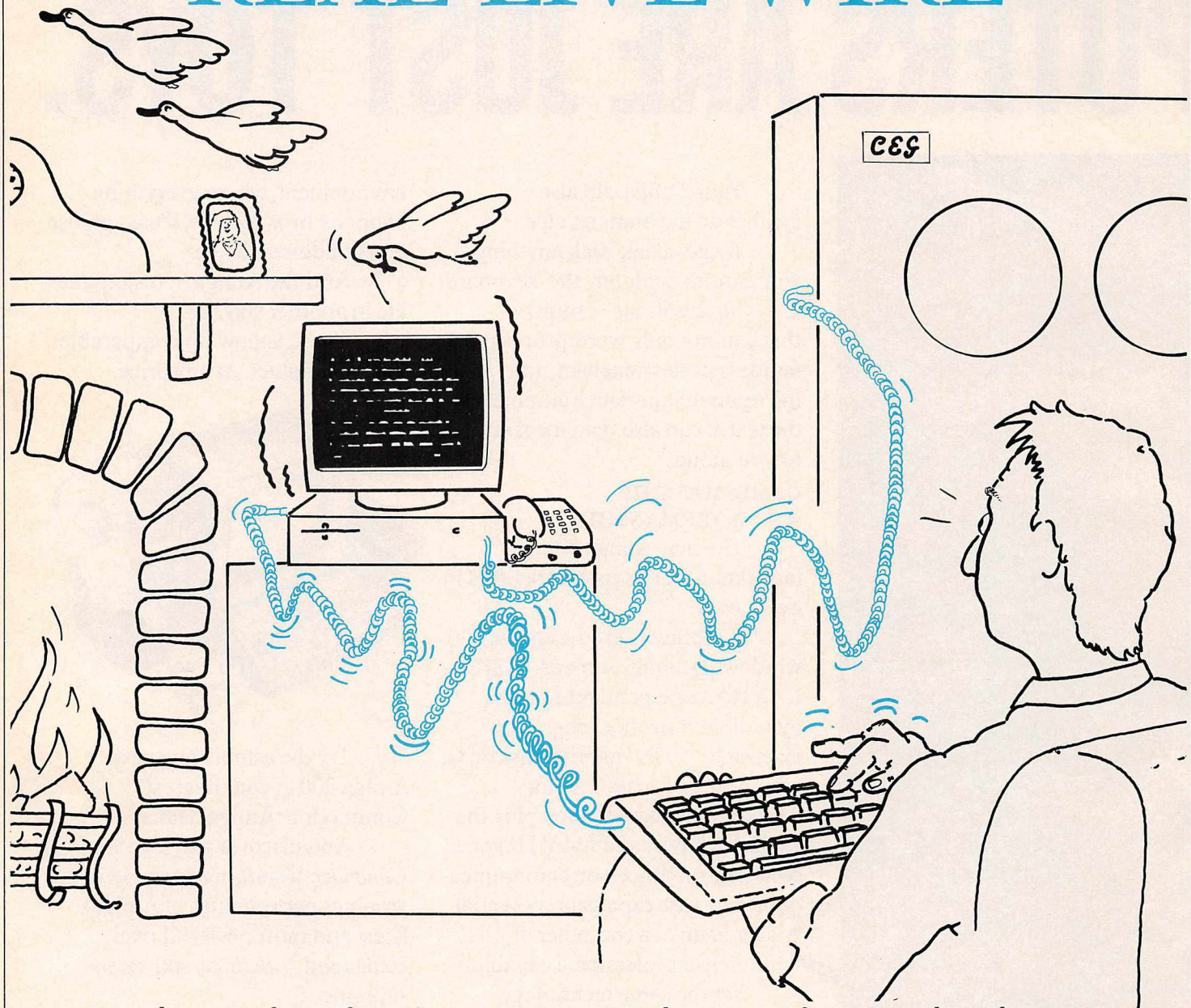
And discover why *Personal Computer World*†, having tested the graphics performance of Amiga's latest and most powerful rival, concluded "...Amiga still reigns supreme..."

Commodore

* *Popular Computing Weekly*, 22-28 May 1987. † *Personal Computer World*, February 1987. ** *Subject to availability.*

AMIGA IS A TRADEMARK OF COMMODORE-AMIGA INC. © 1987 COMMODORE BUSINESS MACHINES (UK) LTD. ALL RIGHTS RESERVED.

COME HOME TO A REAL LIVE WIRE



Inject the power of a mainframe into your micro. MICRONET is the only product that provides you with:–

- Real-time interactive chatlines
- Free and discounted telesoftware
- M.U.G.'s inc the UK's most popular SHADES™
- Daily computer news and reviews
- Free PRESTEL™ electronic mail
- Teleshopping – holidays, hotels etc.
- 70,000 PRESTEL users 56,000 Telecom Gold users
- National and International Telex
- Technical Support and Help Desk

PLUS: Access to PRESTEL and Telecom Gold, and there's much more – all for one low cost subscription. Modem owners call us now for an on-line demonstration.

With your first annual subscription MICRONET will give you a **free** modem. Complete and return the coupon for your MICRONET brochure.

MICRONET

MICRONET, Durrant House, 8 Herbal Hill, London, EC1R 5EJ. Telephone 01-278 3143
Please send me a free MICRONET brochure.

Name_____

Address_____

_____

Tel_____ Age_____

Micro_____

Star Simulation

'Evening Star' depicts the tribulations encountered along the hazardous journey on the famous Somerset & Dorset Line from Bournemouth to Bath.

An authentic steam train simulation, 'Evening Star' has all the realism and charm of those halycon days. 92220 Evening Star was the last 9F British Rail locomotive to haul the "Pine Express" over the treacherous terrain of the S & D.

There are a number of different runs to undertake and enjoy. These range from the easiest training run to the most difficult problem run. Use skill and judgement to set the various controls and guide the heavy locomotive on a safe journey to its destination in Bath.

'Evening Star' is written by Mike Male and designed by railway enthusiast, Bob Hillyer. The game will be available for the Commodore in September 1987.

3 Millionth WordStar

MicroPro International will be selling its 3 millionth copy of WordStar during the next few weeks and the Company is planning special promotions, all over the world, to celebrate this milestone in its history.

Commenting on the 3 millionth promotion, John Speller UK MD said, "WordStar is the strongest brand in the history of word processing, and has the most loyal base of users of any product. A recently completed independent study of more than 700 word processing users showed WordStar with the most positive image of any product in the category, by a significant margin. The Company sold 100,000 copies of WordStar Professional Release 4 in the first 100 days and we are well on our way towards selling 200,000 copies. We want to thank all those people who, over the years, have helped us to reach 3 million sales."

Konix sticks to the Thing

Konix are releasing an Autofire version of their Speed King joystick and have reduced their original joystick by £1 to £11.99 which includes the acclaimed game 'Thing Bounces Back' from Gremlin Graphics. Both joysticks are now compatible with the Commodore 64/128. The Auto-fire Speed King is available for £12.99.

'Thing Bounces Back' was released as recently as last May and at the time received excellent reviews. A multi-screen platform game, it is the sequal to 'Thing on a Spring' and involves a toy on a spring which has to bounce around the factory, avoiding evil toys, seeking to stop the manufacture of monstrous toys.

Commenting Wyn Holloway, Managing Director of Konix, said "We have been truly delighted with the sales of the Speed King. We believe it has proved to be so popular because of its ergonomic design, fast response micro switch control and because it is so robust. Now that 'Thing Bounces Back' which has a retail value itself of £9.99 is available with the joystick, we believe it will easily outsell all other joysticks world-wide".

Bone Cruncher — Superior's soap opera

First there was Boulderdash, then there was superior Repton and now Bone Cruncher is ready to A-maze you!

The latest devious game from Superior turns life in a bath house into a soap opera of Wagnerian complexity, with Superior say 'brilliant music and stunning graphics.'

Mork, an enterprising little dragon, has opened a bath house for the monsters who lurk in the stagnant waters of the deepest parts of the sea. Business is booming but the smell of the monsters has lured malevolent marbles into the bath house and Mork can hardly move for them. Spiders and other nasty creatures have also taken up residence and their bones can be used to produce soap for the bathing monsters. Mork daren't disturb the bathers unless he is delivering another tablet of soap, but when he does the small wafting through the open door attracts all the neighbourhood marbles, often unblocking an otherwise impassable passage.

With a modicum of gumption, it all seems to work very nicely for Mork but for one slight problem: the creatures whose bones produce the soap wander about the bath house with a craving for tender baby dragon meat. For this reason Mork prefers to go everywhere with Golem, his minder and sole ally.

CRL Hunted by Man

CRL is launching I. Alien for the 64. You are the Alien. Once you were the hunter, now you are the hunted. The tables have been turned following the unexpected arrival of a Starship from Earth. The humans on board sai they had come in peace — in search of precious minerals — though you soon discover the real purpose of their journey. A violent and catastrophic nuclear war has wiped out Earth's entire animal population. The humans have no livestock and have been forced to search space for new laboratory specimens to cultivate a new food source.

You are intended to become one of the guinea pigs.

New 64/128 3½ Disk Drives

Financial Systems Software, who recently launched a new 128 users club, are introducing the new 3½ inch disk drive for the Commodore 128 and 64.

The Commodore manufactured 1581 disk drive uses a double sided, 800k disk. The Disk Operating System (DOS), allows sub-directories for easy data control, this uses up to 10k of the available disk space. The 1581 drive has been designed to use the extra serial pin on the 128 which allows a faster data transfer rate. The disk drive will work on a Commodore 64 but will be slightly slower. The drive is reviewed in this issue of CCI.

An inhouse disk transfer service will transfer software from a 5¼ inch disk to the 3½ inch disk format. A nominal fee will be charged for the disk and postage.

The 1581 disk drive will be sold with a UK power transformer and bundled with a collection of disk utilities. The price which is not yet fixed, will be around £175.00

Contact Financial Systems Software, Brampton, Croome Road, Defford, Worcestershire WR8 9AR.

E.A.'s Instant Music

Electronic Arts has announced the release of 'Instant Music' for the Commodore 64/128 and the Amiga. Instant Music lets anyone play or compose great-sounding music in seconds, and its powerful features make it suitable for music education, professional composition, and anyone interested in music. Additionally, the Company announced two accompanying library disks from the DeluxeSeries; 'It's Only Rock 'N Roll' and 'Hot & Cool Jazz'.

Instant Music uses a non-standard form of music notation which is easy to read and a remarkable user interface to make creating music as easy as possible. The key to the program, however, is the artificial intelligence that helps the user make mistake-free music. Instant Music will never let the user play out of tune or in the wrong rhythm.

Instant Music will play four instruments or the user can take control of one instrument and "mousejam" along with the other three. "Mousejamming" is holding down the mouse button and moving the mouse up and down. The lead instrument that the user has chosen will play notes in the right rhythm and key, guided by Instant Music's artificial intelligence. This can be set to five different levels of assistance, from no assistance to guiding the user to the correct melody.

Composing requires the user to turn on the QuickDraw icon, describe a line on the screen with the mouse, and in seconds Instant Music will fill in the proper notes along that line. For greater accuracy, the user can zoom in to see fewer measures at a time, or even just one measure. Serious musicians will find Instant Music useful as a "musical sketchpad" quickly to jot down musical ideas.

Instant Music includes over a dozen digitized instruments and 40 songs of all types, including classical, folk, jazz, and rock tunes. Two 'Deluxe Library' disks will also be available for use with Instant Music. The first 'It's Only Rock 'N' Roll', contains over 15 new digitized instruments and 40 songs that cover the history of rock 'n' roll.

'Hot & Cool Jazz' has new instruments and dozens of songs that cover the history of jazz from 190 to the present.

Amiga £24.95, Commodore (d) £14.95, Commodore (c) £9.95, Amiga It's Only Rock 'N' Roll £9.95, Amig Hot & Cool Jazz £9.95.

Master of the Universe — The Feature Movie

'He-Man' the most powerful man in the universe, has been entrusted with the power of Castle Grayskull and all of the wisdom of the planet Eternia, to defend the universe against evil lead by the villain 'Skeletor'.

Gremlin in turn have been entrusted to produce a faithful reproduction of this forthcoming feature film for home computers.

Gremlin invite you to join He-Man in this classic good versus bad arcade adventure. He-Man's Sword of Power is fused with the combined wisdom and strength of all the ancient Eternian elders. This will aid you in your fight against such villains as Evil Lynne, the sorceress and Beast Man and the savage first lieutenant of Skeletor.

Superior's Bone Cruncher is a series of mind-bending mazes, created by West German programmer, Andreas Kemnitz for the Commodore '64. Price £9.95 cassette, £11.95 disk. £14.95 Amiga.

Gremlin Traps Mouse

Gremlin are excited about another exclusive licensing deal they have done — 'Basil the Great Mouse Detective' Walt Disney's latest lovable characters has been captured to star in a brand new adventure.

The player must rescue his good friend Dr Dawson from the evil clutches of the dastardly Ratigan. You follow the clues which are strewn all over the buildings in Baker Street in order to achieve your objective.

Each of the three levels has five clues which will enable you to find the entrance to the next level. But you must distinguish between the real clues and the red herrings.

Complete with clues, the criminal fraternity of the rodent underworld and set in some of London's most famous locations, Basil the Great Mouse Detective may not be as elementary as it seems!

Winter Olympiad '88

Tynesoft say you can practice for the forthcoming XV Winter Olympics from the comfort of your armchair. They are releasing Winter Olympiad '88.

While the preparations for the Games take place in Calgary, you could already be flashing between the slalom gates, ski jumping through the rarified air or hanging on to your bob-sled in pursuit of that elusive World Record on your own computer.

Six of the most challenging Olympic events have been selected to challenge your abilities to the full. Ski jumping, the Slalom, Downhill racing, the bob-sled, the gruelling Biathlon, and Speed skating Tynesoft tell us are guaranteed to take your breath away.

High quality graphics and sound are not the only things on offer, the gameplay is designed to be strategically balanced between speed and control which will increase the challenge as your skills improve.

Tynesoft claim Winter Olympiad '88 is probably the greatest challenge ever to face a computer sportsman.

C16/Plus 4 £7.95 (c), CBM64 £9.95 (c), Amiga £19.95 (d).

Tour de Force

At last someone has come up with a sports simulation that captures the thrills of International Grand Prix cycling — and who else but Gremlin?

The action takes place in five stages. You have to master the different techniques required to sustain your journey through five different countries — each with a terrain and backdrop to match the location.

Your main objective in 'Tour de Force' (great title, don't you think?) is to win each leg and then score the greatest number of points over the five legs. If you don't defeat the champ you can't proceed into the next country.

Things might seem to be going okay. As the action begins to heat up, things begin to turn nasty. That American Wild Bill Stacey and Russia's Ivan Ivanoff won't be pleased to see you out in front. If you don't get kicked off first, the assortment of potholes, broken bottles and bales of hay that litter the course won't speed you on your way either.

From the crack of the starter's pistol to the presentation of that coveted yellow jersey, Gremlin says it's all-out warfare. It all adds up to the world's toughest sporting event on computer written with tongue in cheek. A Tour de Force indeed!

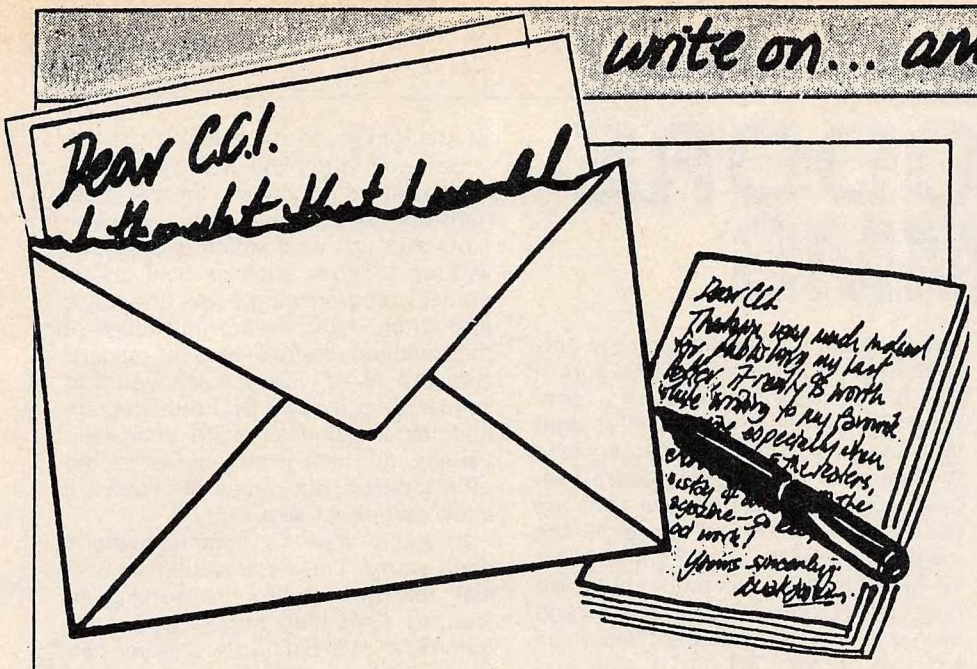
C64/128K £9.99 (c) £14.99 (d).

1901 Monitor Conversion

Trilogic are now converting 1901 monitors. For the modest sum of £29.95 or £25.00 to callers, and considering, none of the existing inputs are affected in any way, it surely beats paying £400 the advertised price for the 1081 Amiga monitor.

Trilogic tells us the Philips CM8833 colour monitor appears to be very similar if not identical to the 1081 and is about £130 cheaper.

write on... and on... write on...



Dear CCI
I just thought I'd let you know that contrary to what you informed Dave of Isleworth about upgrading his VIC 20 to a CBM 64 about, it IS possible. You can currently purchase a 64 circuit board from Evesham Micros for £45.00 (yes, this is written on Amiga Textcraft) solely for this purpose, relatively cheap considering how much a 64 'over the counter' may cost. However, Evesham only have a limited stock of these circuit board, so it may be possible that by the time this is published in your letters column (if at all), Dave just may find himself out of luck yet again...
Yours faithfully
Phil Jackson, Bradford

Ouch! (Again!). One of these days we're going to get enough time really to read all *the adverts in CCI! Apologies to the noble Richard Austin of Evesham Micros for supplying these useful boards. By the way, the remark about Amiga Textcraft was because there was no £ sign — which we have put in. But for pulling us up so correctly Phil gets a CCI Tee Shirt.*

Dear CCI
I have a Commodore 64 and Vic 20. Please have you a club, which includes the Vic 20, for there was a Vic soft club but is that still going? Is the Vic 20 still in action. Has it been scrapped? I hope not. Please let me know if you have a club for the Vic and the 64.
Yours faithfully
Greg Vaughan

Dear Greg
We don't run clubs for the Vic 20 or any machines. However, you will sometimes find advertisements or news (see CCI October) about the Vic 20. In our opinion the Vic isn't 'still in action' though some faithful fans no doubt still use it. Good luck to them.

Dear CCI
I am writing to you with a query. On contemplation of the idea of upgrading to the new Amiga A500, I was wondering "What will happen to all my '64 software?" Would you happen to know of any device which would enable me to use this on the Amiga? I would be very grateful if you could write me with any possible information concerning my question.
Yours sincerely
Ray Hill, Victoria, Australia

Dear Ray
You'll be glad to know you don't have to throw away your 64 stuff because there is about to be a 64 emulator available for the Amiga. This should let you use your 64 software on the Amiga — and means you won't have to pay for Amiga versions of your favourite games.

Dear C.C.I.
As a Commodore 64 owner/user, I congratulate you on this stupendous mag! It is brilliant and a lot better than any other Commy (I mean Commodore) Magazine. The hints, reviews and even the ads are very enthralling! You make honest profit by not advertising as much as others; eh, no names mentioned. Please keep up the everlasting good work.
Kevin Malloy, N. Ireland

Dear Kevin
Thanks for the compliments but to be honest we actually have at least as much advertising as other magazines but we print more pages than other magazines it just looks less. Like all magazines, if we didn't take advertising, CCI would cost a lot more to buy. We're sure our advertisers will love to hear that when their ads appear in CCI they become 'enthralling'! Just another case of infectious CCI magic no doubt.

Dear CCI
Having bought Mini Office II on the basis of your review, may I say that it is, as you suggest, very good value. You may also be please to know that Database Software were so prompt in their service that I received the package only 10 days after posting my order. Incidentally, this compares most favourably with two other British software companies, one of which took three weeks to send a product update and then omitted to enclose the additional documentation. It will probably take another three weeks to obtain this. The other company lost two letters, the second of which enclosed a copy of the first and I finally received my update from this Company after about 8 weeks. both companies advertise in your magazine.

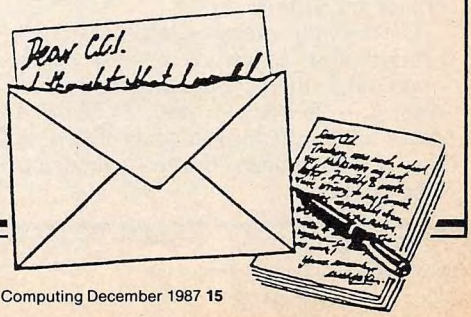
Returning to your review of Mini Office II and the comment that you planned to get Richard Franklin to write a series of articles on the use of Mini Office II, may I make a suggestion?

There may be users who, like myself, have been using 'home-made' databases and who would like to transfer their files to Mini Office II. Assuming sequential files with fields of fixed lengths (padded, where necessary, with shifted spaces), each field being terminated by a carriage return, would it be possible for Mr. Franklin to publish a short program for making the conversion?

Other other matter — an English woodworking magazine which I buy, occasionally (about once a year) has a competition with a closing date that allows time for overseas readers to compete. Would this be a feasible proposition for your magazine? In Australia, we receive our English magazines from 6-8 weeks late.

Thankyou for a most interesting and varied publication.
Yours sincerely
Colin Hall, Australia

Dear Colin
It's good to hear compliments about software companies as well as complaints. We're asking Richard Franklin to look into a program for you. We do set the closing dates of our competitions so as to let overseas readers have a chance. We publish our November issue at the beginning of October and set the closing date at least 10 weeks after CCI is *out. If that's not long enough we'll have to look at it again! But no-one wants to wait years for results, do they?*



COMMODORE COMMS

In the last issue of CCI we touched on Micronet's Commodore area, Solely Sixty Four and More. This month we take an in-depth look at the 'on-line' magazine for Commodore owners...

When British Telecom's Prestel service was launched onto an unsuspecting world back in the late 1970s few thought that the most successful exploitation of the medium would be a service catering for home micro owners. But in 1987 that's how things stand, and it's not hard to see why. To access Prestel it's necessary to use either an expensive dedicated adaptor or a microcomputer with a modem and software.

You probably already have the most expensive item, the computer, and the modem is supplied free by Micronet with an annual subscription to the service.

Well, for a start there are over a quarter of a million pages on Prestel, allowing you to do everything from teleshopping to looking up the snowfall in the French Alps. The idea of electronic mail — being able to communicate instantly with up to 150,000 other people — might also appeal to you. But you're a Commodore computer owner, so what you really want is Solely Sixty Four and More, Micronet's dedicated on-line Commodore magazine.

Solely Sixty Four and More (SSF for short) is run by Andy Waller, a Commodore 64 (and now Amiga) user of some experience. He's been editor of SSF since it started in 1985 and despite being based in the wilds of Lincolnshire — while most of Micronet's staff work in London — it's a full time occupation for Andy.

Solely Sixty Four and More's contents are not unlike CCI's — with news of the latest developments in the Commodore world, reviews of new programs, articles about programming, hints and tips, charts and letters.

But the vital difference is that SSF isn't printed and delivered to your home once a month, it's there whenever you want it — 365 days a year, 24 hours a day. And the chances are that something new will have been "printed" since you last looked.

But instant information isn't the only advantage of Micronet. A large part of SSF is devoted to telesoftware — software that can be "downloaded" straight into your computer. At any one time there are about 80 Commodore programs on Micronet, and new titles are added every week. Of those 80 the majority are for the Commodore 64 (or Commodore 128 in 64 mode) but there is also a selection of C128 programs and even some multi-compatible titles which will run on the C64, C128, C16 and Plus 4.

Telesoftware

The concept of telesoftware is certainly extremely attractive, but is the software worth having? Micronet's Software Manager Phil Godsell believes the answer is a more than resounding yes. "We now have very high standards even for free programs," he told CCI. "All software is evaluated by Micronet before it can go onto the system. I think you would be happy to pay for many of the free titles."

Of the 80 or so Commodore titles on the system at the time of writing about half were free and half commercial programs which you pay for. It's worth noting that most of the free programs are in machine code and the quality is often up to commercial standards.

But Micronet telesoftware isn't just about games. A very good selection of Commodore utility software is also on offer, again free. BASIC Toolkit, Hi-Res Graphic Toolkit, Sprite Editor, Fast Disk Formatter, Disc Copier and Disk Speed/Alignment Checker are just a sample of the titles on the system when we looked. "You could pay a lot of money for these programs," says Phil Godsell, "or you could save a lot by downloading them from Micronet!"

Of course the free programs are important, but what about the commercial ones. We noticed titles from Hewson, Code Masters, Firebird, Palace, Elite, Live Wire and Precision amongst others — all at good prices. Firebird's Silver range for example is selling at £1.50 on Micronet, compared with £1.99 in the shops.

Letters

But although Telesoftware is an attractive feature of Micronet we shouldn't overlook the editorial product for Commodore owners. One of the most popular parts of SSF is the letters section. Andy prints around fifty every week, with topics ranging from the price of the Amiga to the latest hit game.

Going through the rest of SSF we have reviews of new products — both hardware and software, an extensive hints and tips area which is split into various sections such as disk drives, printers, programming, peeks and pokes and so on. Again taking advantage of the medium, there's also a readers' software chart. Every week you can send in votes for your favourite program and help to compile the SSF chart. "We usually find it's pretty close to the official charts, but sometimes there are a few surprises," says Andy.

If you're new to communications don't worry. There's a section on SSF just for you. Called Networking, it features everything from a beginner's guide to a list of bulletin boards you can access. Insight is SSF's in-depth features section, with articles on programming techniques and so on.

Amiga

Solely Sixty Four and More originally started off as a Commodore 64 area, but has developed with Commodore to cover the 128 and Amiga. And now the Amiga has its own magazine within SSF. Called simply "Amiga" the contents mirror SSF but for the Amiga.

Another Commodore area, though not part of SSF, is ICPUG — the Independent Commodore User Group.

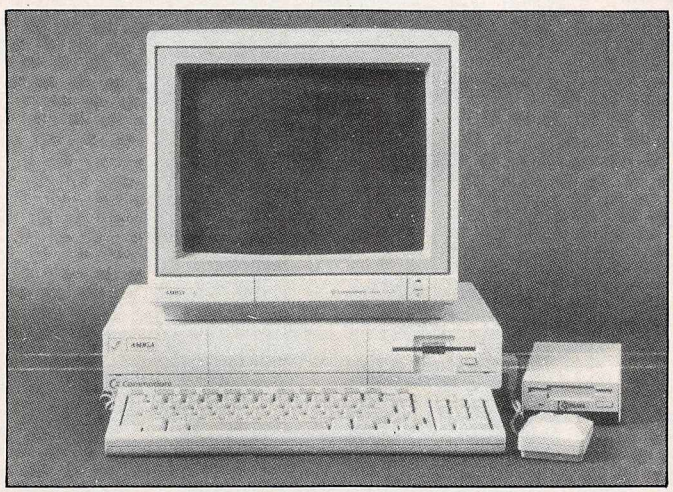
But the Commodore owner joining Micronet should not forget the rest of the system — a lot of it is not aimed at users of any particular machine, and is just as important to a Commodore 64 user as a PC owner. Shades, the multi-user game, for example, and Chatlines — where you can hold conversations with other Micronet subscribers. But that's really anotehr story!

For more information on Micronet you can contact Telemap on Durrant House, 8 Herbal Hill, London EC1R 5EJ or on 01-278 3143. If you already have a modem and viewdata software you can log on to the Demo Database. Dial 01-623 8855 (you can look up your local number once on-line) and enter ten fours (4444444444) as the ID and four fours (4444) as the password.

AT LAST!

AN ECONOMICAL ALTERNATIVE TO THE BULKY EXTERNAL AMIGA DISK DRIVES

3.5" EXTERNAL FLOPPY DISK DRIVE FOR THE COMMODORE AMIGA



SPECIAL OFFER £129.00 inc.!

CUMANA CAX 354

Amiga owners can now easily upgrade to twin floppy operation with the purchase of Cumana's high quality external 3.5 inch floppy drive. The Cumana CAX 354 conveniently takes its power from the host computer and offers a full 880K of formatted storage to either A500 owners or users of system 1 and 3 A1000 series -

- High quality NEC 3.5 inch double sided drive mechanism
- 1Mb Unformatted storage capacity
- High Reliability
- Fast Access
- Quiet operation
- Lower power consumption
- Connector enables easy addition of 5.25" drives

SPECIFICATIONS

Seek time (track to track) 3ms • Settling time 15ms • Rotational Speed 300 RPM • Data Transfer Rate 125/250 Kb per sec • Number of tracks 80 • Number of sides 2

FED UP WITH PAYING HIGH PRICES FOR YOUR 5-25" FLOPPY DISKS???
JUST LOOK AT OUR PRICES!!!!

DS/DD 5.25" DISKS
AT THE SILLY
PRICE OF JUST **£6.00** PER TEN
SAVE EVEN MORE MONEY
BUY TWO PACKS AND SAVE
ANOTHER **£2.00**

TWO PACKS OF TEN 5.25" DISKS JUST £10.00

Complete with labels and write protect tabs.
Prices include VAT and UK P&P.
No fancy boxes to throw away. You get the highest quality disk at the lowest of prices.

COMMODORE CABLES

CPC/1 CENTRONICS PRINTER CABLE
Commodore C64/128 user port to centronics printer cable. The cable is fitted with a line feed switch for the Epson range of printers. Works with all well known centronics printers. **ONLY £15.00** incl.

CPC/2 SERIAL EXTENSION CABLES
Extend your commodore printer or disk drive cable by up to 2 metres
1 Metre extension cable.....**£5.00** incl
2 Metre extension cable.....**£7.00** incl

CPC/3 128D KEYBOARD EXTENSION
Do you find yourself restricted by the short keyboard cable on the C128D. Solve your problem with our 1 metre extension cable.
We have mounted our C128 under the desk to save room.
SPECIAL OFFER PRICE ONLY £15.00 incl

LOCKABLE DISK BOXES

DB3/90
3.5" disk box holds 90 disks first class value at only **£12.50** or only **£11.50** when you buy 10 or more 3.5" disks.

DB5/70
5.25"disk box hold 70 disks great value only **£9.50** or only **£8.50** when you buy 20 or more 5.25" disks.

DB5/100
5.25" disk box holds 100 disks bargain at only **£11.50** or only **£10.50** when you but 20 or more 5.25" disks.

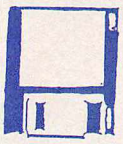
DISK NIBBLER

Use both sides of your disks. Save the cost of the Nibbler with just one box of disks even at our prices. Only **£5.00** or **FREE** if you buy 50 or more 5.25" disks.

SPECIAL OFFER

50 5.25" disks	**£25.00**
1 DB5/100 disk box	**£10.50**
Disk Nibbler	**F.O.C.**
OUR NORMAL PRICE	**£46.50**
OFFER PRICE	**£35.00**
SAVE !!!!!	**£11.50**

Prices include VAT and UK postage



AT LAST!!!! 3.5" DISKS AT SENSIBLE PRICES

Double sided, double density 3.5" verbatim disks
ONLY £16.00 for pack of ten disks
SAVE EVEN MORE MONEY!!!!
BUY TWO PACKS FOR ONLY £30.00
These are not cheap disks but best quality disks at low prices.

NASHA DS/DD 3.5" DISKS
BOXED, WITH LABEL
OUR LOW PRICE **£23.00** per box ten.
SAVE EVEN MORE MONEY!!!
BUY TWO BOXES FOR ONLY **£44.00**

We believe our prices are the lowest you will find.
All prices include VAT and UK postage.

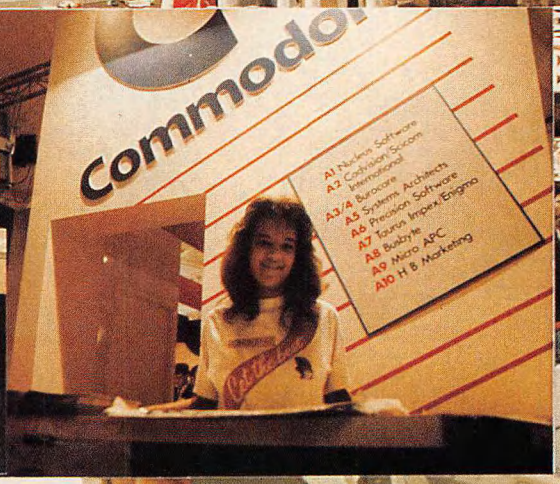
NEW! NEW! NEW! NEW! NEW!

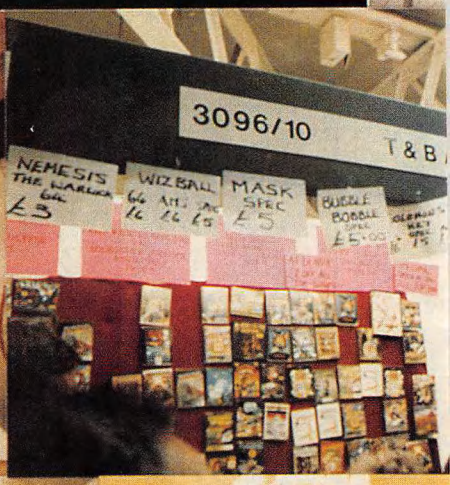
COMMODORE C64. C128 RS232 INTERFACE

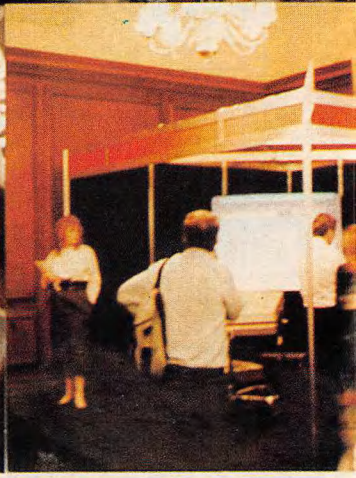
AT LAST!! RS232 Interface that will not cost you the earth.
The H&P Computers Commodore RS232 Interface is a full industrial standard RS232 Interface with all handshakeing lines. that plugs into the user port.
Will fit all modems and printers with a 25 way D connector.
Up till now you would have had to pay between **£35.00** and **£50.00** for a RS232 Interface for the C64/C128.
The H&P Computers RS232 is only **£25.00 incl.** and we even give you an xmodem comms program on disk **free of charge.**

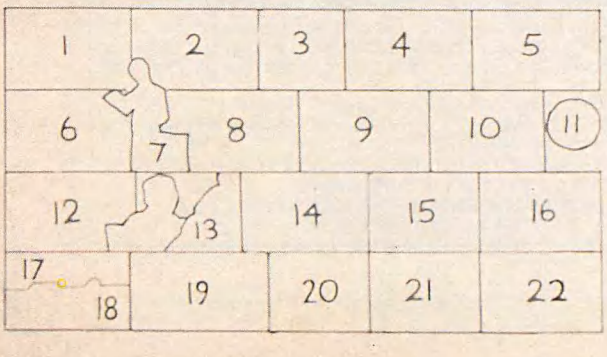
ONCE AGAIN WE BRING THE BEST FOR LESS.
ONLY £25.00 INCL.

Orders to Dept CCI
H&P COMPUTERS UK,
9 HORNBEAM WALK, WITHAM, ESSEX CM8 2SZ. Tel: (0376) 511471



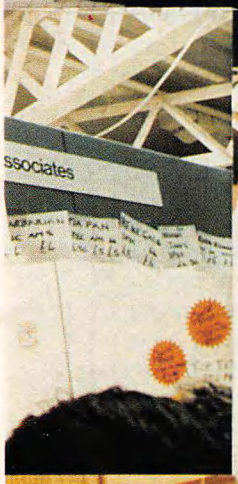


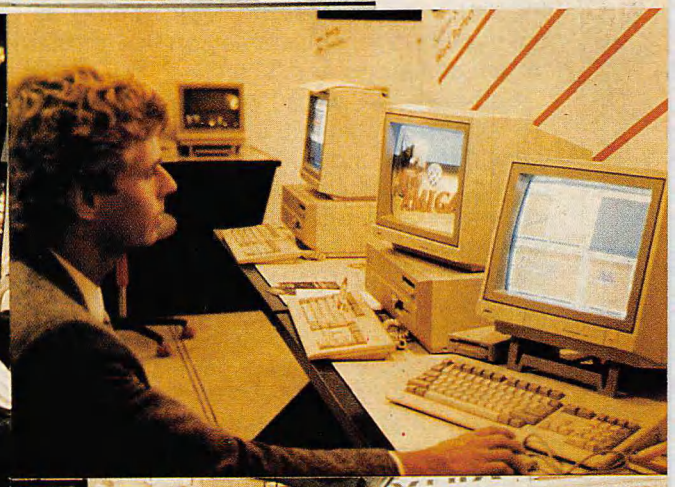




The Personal Computer World . . . happening

1. *Gremlin drawing the crowds.*
2. *Microprose showing for the first time.*
3. *U.S. Golden gamers.*
4. *Mastertronic Roadwaring them in.*
5. *Telecomsoft's M.D., Paula Byrne and friends meeting Leisuresoft.*
6. *7 and 8. Commodore's Village and M.D. Steve Franklin reading Amiga User Magazine.*





9. *Microprose simulating a real helicopter trainer.*
10. *U.S. Gold claiming world leadership.*
11. *Magnetic Scrolls prizewinning Anita Sinclair.*
12. *Electronic Arts unleashing the imagination.*
13. *SS1 VP Randy Broweleit thinking Dungeons and Dragons.*
14. *T&B selling cheap.*
15. *Speedfreaks Outrunning the opposition.*
16. *Byte by Byte's Scott Petersen Sculpting in 3D.*
17. *Lynn Thomas watching over Micronet.*
18. *AMS observing the AMX Mouse.*
19. *Cascade going ACE 2.*
20. *Genics showing CAM.*
21. *Renegade making Time Sit Still.*
22. *Gremlin starring silvergirls.*

PCW —

Zack Skinner keeps a personal diary of the recent Computer World at Olympia.

10. Years. Noise. Very loud. Very very loud. Videos. Rolling. Flickering. Looping demos. Looping. Litter. Lots of litter. Cheap software. People shouting to sell and to be heard. This is show business, Personal Computer World show business.

Wednesday. Busy. Strictly business. No-one under 18. So who are those kids crowding the Out Run machines on the US Gold castle — sorry —Stand? **Thursday.** Deals. Lots of Japanese. Acorn's Archimedes may have won an award but the stand is nearly empty. No-one taking the Risc. Amigas are selling well. **Friday.** School parties. Crocodiles of blazered kids. Basically, their teachers are saying, you learn on the BBC. Yeah, say the kids gaping at Gremlin's talking Gremlin, but we play on 64s and Speccys and dream of Amigas and STs.

Saturday. No, we all want to forget Saturday. The earthquake didn't hit Los Angeles, it hit Olympia, Kensington, London. A human earthquake. Say 25K strong. Yes around 25,000 elbowing, plastic bag carrying, leaflet grabbing, sardined but good tempered personal computer users queued and crushed their way round the narrow walkways, eyeing and playing, sighing and maybe even praying for all the promised and pleasing goodies that were offered to their longing screenwise stares. *Saturday was a madhouse.* This was the Personal Computer World. No, not the magazine that sponsored the show but the people who use those boxes that the Commodores and Amstrads of this particular world want so earnestly to shift. The whole computer world and his brother and son and even his sister seemed to be trying to edge his way around the blaring videos and flickering screens. Not to forget the crowd into the biggest single attraction of the whole Show. No, it isn't that man in the blue Microprose cap. He's only Microprose's UK Boss. No, it's the flight simulator. No! Not just a game! A real flight simulator! It weighs 1½ tons! Yes, you can climb inside and fly. No, that man is not a helicopter pilot. He is Stewart Wheeler! Yes, he will help you fly Gunship. That's if you want in the ever-growing queue and you can fight your way through the mob around the Microprose stand. No, Saturday is not something that anybody who was there is going to forget.

Sunday. Serious faces in the crowds. Haggard faces and hoarse voices among the exhibitors. The business areas still busy. The Taiwanese section still still simling politely. The café has some great looking burgers and honey-cured ham. Unfortunately they won't serve you them. They've run out of bread or anything to put them on. The spectators slump against the stands and at four o'clock begin to thin. A few pick up the last of the souvenirs — like ripping off a heavy cardboard cut-out from the wall of Mirrosoft's Stand. At 5 o'clock, it's not tea time but sauve qui peut . . . The demolition guys are in. Doing with impunity what no-one would let the kids perpetrate — ripping down the stands. Just tearing the whole place to pieces. Showtime is over, folks. But the show must go on. Tomorrow there's another show here. Maybe about leather goods. Maybe holidays. They should care. Just get the goddamned stand down and don't bust the big screens if you can help it. Yeah, I know it's a computer but it's got to get out of here.

The Commodore Village — as crisp and chic as an Amanda Cridge suit — crumbles and tumbles under the urgent impact of tomorrow. The Amiga — temporarily — is history. Outside the gaping trucks are being loaded. It looks like the breakup of a circus. But out there — already all over the UK, on planes at Heathrow and Gatwick, buckling their seat belts for Europe, the US and the Pacific Rim, there are people who have been touched by the byte of excitement, who are just a shade more pixelated than they were before they reached Olympia and fought their way around the home of the Gods of computing. We have moved another year into the future — and we have been shown what the future is. It is a new world — a plain-coloured square edged box of tricks called a computer. It speaks to us through a screen and says 'I am increasingly powerful but do not be afraid. I am ever more friendly, User.' It is our future — and it works, and it plays, and it sells. We are all now part of this very personal computer world. It is over for now. But there will be another one next year. See you same time, same place. At the PCW.

Someone called it "a mirror on the industry . . . a look into the future . . .". It reflected as much as most people could want of the different areas that you might need in computing. Desk Top Publishing, Online Communications, Expert Systems, Productivity Areas, Networks, The Open University —even the Data protection Registrar! Not to forget what most of the crowds came for — entertainment. You could even win a holiday in Thailand from a travel agent. Why were there a travel agent and an insurance company there? Had they been leftover by mistake from the previous week's Olympia show? Odd islands in a technological ocean.

Let's take it the easy way — alphabetically. *Amiga.* Not too difficult to choose first anyway. Anyone who had any doubts before — and that might have included a fair part of the UK software industry, did not carry those doubts away from the Commodore Village. The key as everybody knows with the Amiga is to let the dog see the rabbit. People — computer people or just people — who see the Amiga, fall for it. It's love at first sight. 9 out of 10 computer using pussy cats certainly prefer it. And you needn't mention the ST because though the Atari village was larger it looked like a street market and there was no comparison in any fairminded observers view about the evidence of the quality either of Commodore's stylish and dignified presentation or of the dazzling products on display. There were even rumours — untrue no doubt — that the genlock peripheral on show for the ST was neatly

CONTINUED ON PAGE 22....

Clik

AMIGA SOFTWARE SPECIALIST

Unit 1, Willowsea Farm, Spout Lane North, Stanwell Moor, Staines, Middx TW19 6BW

Games

	RRP	OUR PRICE
ADV CON SET	29.95	**21.50**
ARCHON	29.95	**21.50**
ARCHON 2	29.95	**21.50**
ARENA/BRAT	34.95	**24.75**
ALT REALITY	24.99	**18.50**
ARCTIC FOX	29.95	**21.50**
BALANCE OF POWER	39.95	**26.50**
BALLYHOO	29.99	**21.50**
BARBARIANS	24.95	**18.50**
BORROWED TIME	24.99	**18.50**
BUREAUCRACY	34.99	**24.75**
CALIFORNIA GAMES	24.99	**18.50**
7 CITIES/GOLD	29.95	**21.50**
CHALLENGER	9.95	**7.50**
CRUNCHER FACT	9.95	**7.50**
CUT THROATS	29.99	**21.50**
DEMOLITION	9.95	**7.50**
DEADLINE	29.99	**21.50**
DEJA VU	29.95	**21.50**
DEFENDER OF CROWN	29.95	**21.50**
DEEP SPACE	29.99	**21.50**
EMERALD MINES	9.95	**7.50**
ENCHANTER	29.99	**21.50**
FAERY TALE ADV	49.99	**32.50**
FLIGHT SIM 2	49.95	**32.50**
GAUNTLET*	24.99	**18.50**
GLF FOOTBALL	24.99	**18.50**
GOLDRUNNER	24.95	**18.50**
GOLF	34.99	**24.75**
GUILD/THIEVES	24.99	**18.50**
HACKER	24.99	**18.50**
HACKER 2	24.99	**18.50**
HARDBALL*	24.99	**18.50**
HITCH HIKER	29.99	**21.50**
H-WOOD POKER	19.95	**15.50**
H-WOOD HIJINX	29.99	**21.50**
INFIDEL	29.99	**21.50**
INSTANT MUSIC	29.95	**21.50**
JEWEL OF DARKNESS	19.95	**15.50**
KARATE KID	19.95	**15.50**
KARATE KID 2	24.95	**18.50**
KAMPFGRUPPE	29.00	**21.50**
KING QUEST 3	29.99	**21.50**
KNIGHT ORC	24.95	**18.50**
LEATHER GODDESS	29.95	**21.50**
LEATHERBOARD	24.95	**18.50**
LEATHERBOARD	9.95	**7.50**
L.C.P.	34.99	**24.75**
MARBLE MADNESS	29.95	**24.75**
MEAN 18	29.99	**21.50**
MINDSHADOW	24.99	**18.50**
MIND FOREVER	34.99	**24.75**
MOON MIST	29.95	**21.50**
MOUSE TRAP	14.95	**11.50**
MUSIC STUDIO	34.99	**24.75**
ONE ON ONE	29.95	**21.50**
PAWN	24.95	**18.50**
PLANETFALL	29.99	**21.50**
PORTAL	34.99	**24.75**
ROADWAR 2000	24.99	**18.50**
SEASTALKER	29.99	**21.50**
S.D.I.	29.95	**21.50**
SHANGHAI	24.99	**18.50**
SILENT SERV	24.95	**18.50**
SILICON DREAMS	19.95	**15.50**
SINBAD	39.95	**24.75**
SORCERER	29.99	**21.50**
SPACE QUEST	29.99	**21.50**
SPACE BATTLE	9.95	**7.50**
SPELLBREAKER	29.99	**21.50**
STREET SPORT BASEBALL*	24.99	**18.50**
STATIONFALL	29.99	**21.50**
STAR GLIDER	24.95	**18.50**
STARCROSS	29.99	**21.50**
SUSPECT	29.99	**21.50**
SUSPENDER	29.99	**21.50**
SURGEON	49.95	**32.50**
SUPER HUEY	19.99	**15.50**
SWOOPER	19.95	**15.50**
TASS TIMES	24.99	**18.50**
TERROR PODS	24.95	**18.50**
TEMPLE OF APSHAI	24.99	**18.50**
TRINITY	34.99	**24.75**
ULTIMA 3	24.99	**18.50**
UNINVITED	29.95	**21.50**
WINTER GAMES	24.99	**18.50**
WITNESS	29.99	**21.50**
WISHBRINGER	29.99	**21.50**
WORLD GAMES	24.99	**18.50**
ZORK 1	29.99	**21.50**
ZORK 2	29.99	**21.50**
ZORK 3	29.99	**21.50**

*All titles marked * will be shipped on release data.*

Utilities

	RRP	OUR PRICE
ANALYZE	149.95	**92.50**
BBS PC	99.95	**65.00**
L'ATTICE C PROOF	299.00	**184.50**
LATTICE C	129.95	**81.50**
LISP	149.95	**95.50**
MUSIC STUDIO	34.99	**24.75**
MI-AMIGA FILE	99.95	**65.00**
ORGANIZE	99.95	**65.00**
PASCAL	89.95	**59.50**
PUBLISHER 1000	199.96	**120.00**
SCRIBBLE	99.95	**65.00**
T.V. TEXT	99.95	**65.00**
ZUMA FONTS 1	34.95	**24.75**
ZUMA FONTS 2	34.95	**24.75**
ZUMA FONTS 3	34.95	**24.75**

All our prices include VAT and First Class Post.

Telephone **(0753) 682988**

For personal service

Please make cheques payable to Clik and send to:

CLIK, UNIT 1, WILLOWSEA FARM, SPOUT LANE NORTH, STANWELL MOOR, STAINES, MIDDX. TW19 6BW.

connected to an Amiga under the table. But nobody would do a thing like that to sell computers would they? The Commodore Village was designed to spell class and confirms the CBM view that the Amiga is a machine that has to be taken 'seriously'. Not everyone agrees and some software people criticised the approach, asserting that CBM's fate depends on the A500 which is above all a games machine, and that sales in big numbers will come only if CBM realises that and forgets the genteel and goes bare knuckle. We shall see who is right . . .

3D

The Amiga itself with ***Byte by Byte***'s Sculpt 3D and ***Aegis*** Videoscape had made a leap into the three dimensional video future. Pictured as it as on the cover of the September Issue of Commodore Business and Amiga User Magazine, Video was the star of a glitzy performance. Every copy of the magazine flew off the Information Stands that CCI staffers were manning for Commodore. Amiga interest was feverish.

Commodore's big guns attended the Show. Gail Wellington, CBM's Director of Product Development, Christian Anderson, European Marketing Director and Steve Franklin, Commodore UK's new MD all looked as if they had lost a ten pence piece and found a fifty pound note. The Amiga may not have had the technical dazzle of the Archimedes or the new Clive Sinclair baby but it was here and now and undeniably a universally admired star of the Show.

Anco, whom we hear is going so big on the Amiga that it is about to bring out the first ever compilation of games for the 16 bit comer, also has its long-awaited Winter Events for the C16 now and a new game for their 64 Cycle Knight. ***Burocare*** was on the CBM Village showing an artists workstation. No, not an Electronic Arts programming aid but an Amiga set-up that allows input from video recorders etc and output to a variety of sources. Designed for professionals like advertising agencies, it would set them back a cool £12K but probably earn them many thousands more.

Busbyte, also on the CBM Village, are well-known for selling everything for the Amiga. And ***CAD Vision*** had a CAD system on the Amiga that for a mere £2000 could equal other systems that cost £30,000.

Down-to-earth

Compunet was stretching its wings and showing an Amiga access to its network. ***D&H Games*** earned our admiration for its down-to-earth approach announcing its latest game "Football Director" by saying that it "dispenses with the usual mundane little tunes which every software house feels they must include in their games and all the fancy packaging to hoist up the price". ***Datel*** were there with their renowned collection of quality add-ons including some for the Amiga. ***Digital Integration*** had new simulations — F16, ATP and Bobsleigh.

Electric Distribution had the excellent Timeworks products and a special bundle including word-processor and spreadsheet for under £100. They also had a new range of very low price — £9.99 — home productivity packages.

Running under a new slogan — Unleash the power of your imagination — for the first time at the PCW Show was ***Electronic Arts***. The giant US entertainment software company — CCI's Software House of 1986 —built a solid-looking stand that housed a battery of screens showing the huge range of Electronic Arts products that is about to pour out onto the European computer scene. All the top EA brass was on show led by President Trip Hawkins and Director of European Publishing, Mark Lewis. Electronic Arts were presenting a useful campaign to get a 100 strong panel to help them judge the quality of games. A meritable effort to bring a wider public involvement in entertainment software development.

Evesham Micros, who had never exhibited at the PCW before, found considerable interest in its Excelerator Disk Drive and the make-your-old-64C-into-a-flash-new-C64 case Slimline, a popular buy.

One of the most attractive sights of the Show was the silver clad space-style girls who manned ***Gremlin***'s biggest ever stand. Ian Stewart's growing software house had taken the trouble to create a real — or rather computerised — Gremlin that talked —and in another form walked around the Show. Both caused considerable sensation.

Sensation

One of the first sensations of the show was the disagreement between ***Hewson Associates*** and Firebird as to who owned the latest Andrew Braybrook and Steve Turner Shoot 'em ups. The two programmers — longtime Hewson creative collaborators — seemingly took Hewson by surprise by signing a contract with Firebird after Hewson had announced their latest games as its stars of the Show. However Hewson did have a new game by Impossaball author John Phillips called Nebulus, for the C64.

ICPUG's stand was always crowded and ***Interceptor*** announced that its successful Pandora label's "Into the Eagle's Nest" was about to arrive on the Amiga, and ***Level 9*** had their new Knight Orc and Gnome Ranger for the same machine. ***Leisuresoft***s Tony Adams was proudly showing a new joystick. He gave one to CCI which was promptly stolen off the stand by someone who knew a good joystick when he saw one. One of the biggest successes at the Show was the combined might of ***Mastertronic*** and ***Melbourne House*** — usefully both beginning with M. Mastertronic modestly proclaiming itself the world's leader in computer games highlighted their vast new range of 16 bit games for the Amiga. Undoubtedly the star of their stand — flashing away on multiple screens — was Roadwars. Written on the Amiga for their Arcadia Video games label, if it hadn't been for the general blare of soundtracks, you would have heard the thud of jaws dropping as the crowds took in the video come-to-life-in-a-home-computer spectacular quality of Roadwars. It will be interesting to compare it with US Gold's forthcoming Out Run when that biggie hits the streets. The success of the Roadwar effect could be read on the satisfied look on Mastertronic Boss Frank Herman's face. Mastertronic staged a challenge match of UK computer magazines' players versus the undefeated US Video Champions team who were flown specially from the States. Or previously undefeated. With CCI's Tony Horgan as one of the UK team of four, the US team bit the Roadwar dust. And Horgan carried back a bottle of champagne to celebrate.

CONTINUED ON PAGE 24...

The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01 430 0954

The specialist centre for Commodore 64, 128 and Amiga

AMIGA HARDWARE

Amiga 500	465.00
Amiga 500 512K Expansion	115.00
TV Modulator	23.00
8833 Monitor	280.00
Cumana drive	149.00

Amiga Software

Grafox	Logistix	£140.00
Maxisoft	Maxidesk	£60.00
	Maxiplan Spreadsheet	£130.00
	Maxicomm	£50.00
Mycrosystems	Scribble Wordprocessor v.2	£80.00
Digital	LPD Word Processor	£110.00
CDA	Lex Check speller	35.00
Precision	Superbase	£90.00
Gold	Pagesetter Desk Top Publishing	£100.00
Northeast	Publisher 1000	£150.00
New Horizons	Flow Idea Processor	£80.00
	ProWrite	£110.00
Sedona	Money Mentor Personal Finance	£90.00
Meridian	Zing	£70.00
Aegis	DigA	69.00
Commodore	Textcraft v.1.1	£70.00
Taurus	Acquisition Database	£245.00
VIP	VIP Professional	£160.00
Word Perfect	Word Perfect Word Processor	£280.00

UTILITIES

AC	Fortran	£250.00
Aegis	Images	£40.00
	Images Artpak	£40.00
	Animator	£110.00
	Draw	£140.00
	Draw-plus	£200.00
	Sonics	£68.00
	Videoscape 3D	£180.00
Applied V	Futuresound	£160.00
	Adaptor for Amiga 500	£25.00
Commodore	Amiga Term	£49.00
	Amiga C	£139.00
	Amiga Enhancer	£14.00
	Amiga Assembler	£79.00
EA	De Luxe Paint II	£99.00
	De Luxe Print	£70.00
	De Luxe Print Data Disk 2	£30.00
	De Luxe Video Constr. Set II	£99.00
	Instant Music	£35.00
	Music Construction Set	£70.00
Easyl	Graphic Tablet	£399.00
Infinite	Galileo (Planetarium)	£60.00
Kuma	K-Seka assembler	£69.00
Mimetics	Soundscape Digit., interface, software	£350.00
Modula	Modula 2 (Developers)	£130.00
Manx	Aztec C Compiler (Developers)	£250.00
Metacomco	MCC Pascal	£75.00
	Amiga Toolkit	£39.00
	Macro Assembler	£70.00
	Shell	£49.00
Microlllusion	Dynamic Cad	£450.00
Mindscape	Keyboard Cadet Typing Tutor	£39.00
NewTech	Digiview v.2	£160.00
	Adaptor for Amiga 500	£25.00
PVS	Pro Video GT	£175.00
	Pro Video Font Library Set 1 or 2	£75.00
Rendale	Genlock (PAL)	£460.00
Sun	Perfect Sound	£79.00
Byte	Sculpt 3D	£79.00
True Basic	Developers Toolkit	£39.00
Unison	Printmaster Plus	£39.00
	Printmaster Art Gallery (1 or 2), each	£29.00
Zuma	Fonts 1, 2, 3,/ each	£29.00
	TV Text	£80.00
Access	Alegra 512K Memory Expansion	£290.00
Progressive	Megaboard 2 Memory Expansion	£440.00
Exf Tech	Escort 2 MB	£575.00

EDUCATIONAL

FB	Math Talk	£39.00
	First Shapes	£34.00
Microillusion	Discover Spell	£34.00
	Discover Math	£34.00

SIMULATIONS

Sublogic	Flight Simulator	£42.00
	Scenery disk	£19.00
Accolade	Mean 18 Golf	£36.00
	Mean 18 Data disk	£20.00
Alert	Balance of Power	£29.00
Bethesda	Gridiron Football	£49.00
EA	Chessmaster 2000	£39.00
Infinite	Grand Slam Tennis	£39.00
SSI	Kampfgruppe	£46.00
	Roadwar 2000	£33.00

GAMES

EA	Archon	£30.00
	Bards Tale	£39.00
	Marble Madness	£29.00
	Seven Cities of gold (A1000 only)	£29.00
Cygnus	Starfleet	£44.00
Epyx	Rogue	£29.00
	World Games	£24.00
Mindscape	Halley Project	£39.00
	Racter	£39.00
	Brataccus	£34.00
	Defender of the Crown	£29.00
	Sinbad	£29.00
	SDI	£29.00
	Deja Vu	£29.00
	The Uninvited	£29.00
Activision	Borrowed Time	£24.00
	Hacker	£29.00
	Mindshadow	£24.00
Unicorn	Diablo	£24.00
Psygnosis	Barbarian	£24.00
Rainbird	Pawn	£24.00
	Guild of Thieves	£24.00
Other Valley	Monkey Business	£20.00
	Delta Patrol	£20.00
Polarvision	Oo Topos	£29.00
	Transylvania	£29.00
Origin	Ultima III	£29.00
	The Ogre	£29.00
Sierra	Space Quest	£39.00
	Kings Quest	£39.00
	Kings Quest II	£39.00
	Kings Quest III	£39.00
Synapse	Mindwalker	£39.00
Infocom	Leather Goddesses of Phobos	£29.00
	Hitchhikers Guide to the Galaxy	£29.00
	Moonmist	£29.00
	Hollywood Hi-Jinks	£29.00
	Bureaucracy	£35.00
Microllus	Faireytale	£39.00
Jagware	Alien Fires	£39.00
Addis Wesley	Amiga Reference Manuals (set of 4)	£104.00
	Amiga Dos Manual	£20.00
Disks	3.1/2 in., ds, box of 10	£24.00

All prices include VAT —
Add £2.00 for P&P (UK and Europe). Add 20% for other countries.
VISA/Access Telephone orders accepted

For the serious computer user who wants to build advanced software solutions — or program another Roadwars — ***MicroAPL***s version of APL 68000 was shown to take full advantage of the power of the Amiga. They showed on the Commodore Village. Led by the sparkling Lyn Thomas, ***Micronet*** had their own as usual crowded stand. We heard one Scandinavian guy offering "to be your agent". We don't know if he was offering it to Micronet or personally to the suntanned Lyn.

Real live simulation

On the roof — yes it was as big as a grandstand and had two floors — of the ***Microprose*** massive establishment could be seen Wild Bill Stealey, the company's founder, entertaining bemused Europeans and delighted pressmen with his extrovert view of the world of simulations. Down below, the real live helicopter simulator was the constant attraction of hundreds of eager Microprose sim fans. But the growing Microprose empire did not stop there. The quality productivity label ***Springboard*** is now distributing through them as is ***Origin*** of Ultima fame and the ***Suncom*** joystick. Microprose has leapt to prominence since last year when Stewart Bell first came on the scene at the 1986 PCW.

Mirrorsoft too under their popular MD Jim Maconachie have also progressed rapidly. Part of the growing Maxwell communications corporation, it has become a leader in the 16 bit market with such winners as Mindscape's Defender of the Crown and had Bob Jacobs of Cinemaware, creators of Defender and a forthcoming big Amiga entertainment product — King of Chicago. They also have Bermuda Project slated for release and a 64 game called Mean Streak.

Novagen were showing a follow-up to the popular Mercenary — Damocoles and a simple but good looking shoot 'em up — Backlash, for the Amiga. ***Nucleus***, on the CBM Village, showed a spectacular manufacturing process control system on the Amiga.

At the other extreme, possibly Britain's most enthusiastic game player ***Ocean***s Software Manager Gary Bracey proudly was seen among the cutouts on the ***Ocean/Imagine*** Stand depicting Renegade — at showtime Number One in the Charts. Ocean have a strong hand for future releases with the Konami video game conversion Gryzor and a new original game from Denton Designs "Where Time Stood Still" — a massive arcade adventure, action *and* strategy game. They have their first 16 bit project going with ECO.

The useful GEOS range was on show through ***ONCE BYTTEN*** and ***Palace Software*** had a massive blow up of Maria Whitehead their Barbarian star pin-up. ***Postronix*** had a huge range of low-priced Commodore goods and ***Piranha*** had their latest hits Flunky and Yogi Bear. ***The Power House*** had — I kid you not — Sick Bags and the slinky Jo Meads. ***Precision*** were launching their outstanding Superbase Professional on the Amiga. ***Prism*** had Kevin Toms and Football Manager 11. ***Robtek*** had Gizmoz and Hollywood Strip Poker and ***Sentinel*** were showing their outstanding word processor WordPerfect. ***Software Projects*** were there with Star Paws and Hysteria and ***Taurus Impex*** —at last — had their Amiga Acquisition database. ***Telecomsoft*** had a mountain of a stand and were showing videos of forthcoming products and the new Bubble Bobble, their most successful since Druid. ***Trojan*** had their ever popular Light Pens. ***Tynesoft*** launched Winter Olympics which has some outstanding graphics and will be coming on all formats.

Out Run

And there was Out Run. Sorry ***US Gold.*** With a massive stand — not to mention the largest banner at the show which carried across the whole of one end of the huge hall to advertise their new Tim Chaney-managed label ***GO!*** — "Gold" unquestionably looked huge and hugely successful. Not only did they have one of the top attractions of the Show — the video games sit-in machine of Out Run which everyone seemed to want to play — even the night *before* the show when only the exhibitors were allowed into the hall, there were people crowding round the Out Run machines and queuing to try — they also had ***Epyx'*** California Games drawing big and small kids to the TV screens. It is, as the soundtrack proudly, announced, "the best game so far this year says CCI". And US Epyx Boss David Morse was there to help the UK's Helen Browne boost it. Also getting crowded at the top of the skyscraper US Gold construction was ***SSI*** VP Randy Broweleit for the coming label is also handled by US Gold in Europe. There is no doubt about it, the Geoff Brown Empire seems to go from strength to strength.

So, how did you find the Show? Well, it was crowded and noisy and busy and hectic. And if there wasn't anything — except perhaps Roadwars — that stood out as really mindblowing there was something that seemed to strike everyone who has been to many PCWs. It was more than ever before a sense of solidity. Last year, they were giving prizes to the like of Mikrogen just for staying in the software business for five years. That sort of thing is obviously the kiss of death for now Mikrogen is no more. There were no prizes for that sort of thing this year but probably they are no longer needed. For the greatest sense of the show was that of a kind of coming of age. Perhaps it was reaching double figures — the tenth show — but something gave the whole show a feeling of maturity, as if this very new vibrant and prosperous industry was settling down to reality, to the serious business of making money. It wasn't just a pack of amateurs who had written a good game and made a quick and lucky buck any more. It was — as CRL's Clement Chambers complained — less exciting, even a little dull for those who were not raking in the orders. But for most people professionally involved with the home computer industry, it gave the sense that at last the business for which this show is run is here to stay. No, the home computer industry won't remain the same and there will still be many changes to come but it is now, in the business phrase — a mature industry. Not so thrilling, not so scary, not so uncertain. It is *mature* — and that means solid and rich. About £80 million in the UK alone this year will be turned over and three or four times that around the world. And when that kind of money is involved businessmen — even personal computer businessmen — start to act maturely. With that much money at stake in the personal computer world, it's not very surprising is it? So, really, how did you enjoy the Show? Well, Maturely, I guess.

EXPERIENCE THE REAL THING!

WIN A WINTER OLYMPIC HOLIDAY WORTH MORE THAN £2000

WINTER OLYMPIAD'88

Winter Olympiad'88 is undoubtedly the best winter sports simulation to date. It features the classic winter olympic events; Ski Slalom, Giant Slalom, Two man bob, Ski-Jump, Biathalon and Speed Skating. These have been depicted in a way not seen on any home computer before. The result is a phenomenally realistic and spell-binding game.

Available on the following formats:

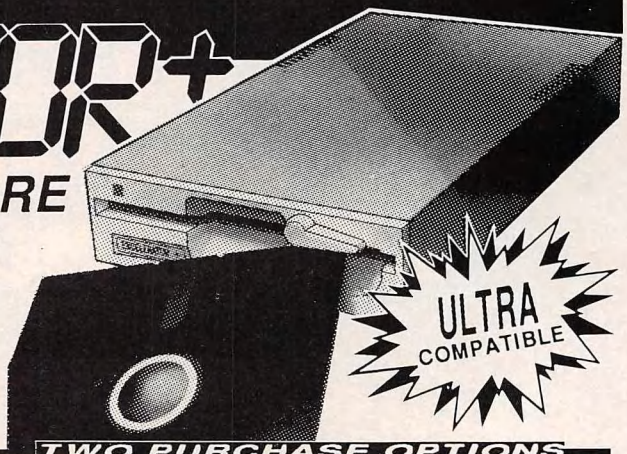
- CBM64, BBC/ELECTRON, ATARI **£9.95**
- SPECTRUM, AMSTRAD, C16/+4 **£7.95**
- DISK - BBC **£14.95**
- MASTER COMPACT **£14.95**
- ATARI 8 BIT **£14.95**
- ST. **£19.95** • AMIGA **£19.95**
- IBM **£19.95**

TYNESOFT
COMPUTER SOFTWARE

ADDISON INDUSTRIAL ESTATE · BLAYDON · TYNE & WEAR · NE21 4TE · TEL: 091 414 4611

Evesham Micros

THE EXCELERATOR+



FEATURES

- Ultra compatible
- Very quiet
- External 8/9 switch
- Direct drive motor
- Handles disk turbos
- Doesn't overheat
- Compact size
- Super reliable
- Year guarantee
- Great value

FOR COMMODORE COMPUTERS

Don't buy a 1541C when you can buy this compact, reliable & modern drive for less money!

GUARANTEED *MORE* compatible than *1541C*

SEE RAVE REVIEWS IN ALL THE MAGS

One reviewer said, *"the only thing I could find wrong with it was that the sticker was on crooked".*

TWO PURCHASE OPTIONS

1. SPECIAL INTRODUCTORY PRICE **£159.95**

2. COMBINATION OFFER: Excelerator+ & latest Freeze Frame **£179.95**

THE Star PRINTERS FOR BUSINESS

NL-10

New LOW price includes 2 spare ribbons FREE! (value £13.90)

£219.00

This is the class printer in it's price category. The perfect choice for Commodore owners because the interface is changeable. So buy with the 64/128 cartridge then if you change computer at a later date just buy a new cartridge!

In a group test with other popular printers in the price category such as Epson, Citizen & OKI *What Micro* described the NL-10 as "THE ROLLS ROYCE OF THIS GROUP". Why settle for less? (Amiga users order with parallel cartridge, price includes cable).

- Auto single sheet feed
- Tractor & Friction feed
- "Front Panel" mode selection
- Interchangeable i/face cartridges
- Double & Quad height characters
- Low cost cut sheet feed
- Superb "NLQ"

Selected Products

DISK NOTCHER. Double your disk capacity, allows you to easily & accurately cut a second write protect notch..... **£4.95**

POWER PACK. Replacement power pack to suit '64..... **£24.95**

AZIMATE 3000. Check and adjust CBM cassette head alignment. Easy to use..... **£6.95**

MOTHERBOARD. 4 slot with either all upright or with one straight thro' for modem use, please state type when ordering..... **£28.00**

XETEC SUPERGRAPHIX. The best centronics i/face for 64/128. 8K buffer downloadable fonts etc. very good..... **£69.95**

DATA RECORDER. CBM compatible type. Same performance etc. as C2N/1531 but cheaper and with pause..... **£24.95**

1541C DISK DRIVE. We will sell you one but why not buy an Excelerator, less money and many advantages..... **£189.95**

We have a good stock of Commodore related equipment. If you don't see what you want please give us a call

AMIGA 500

In stock (voucher price).....£469.00
price includes Deluxe Paint, Silent Service, One on One (or similar) & 5 disks full of demos etc

Philips CM8833 *(STEREO)* Monitor to suit A500....£279.00
(Price includes cable to suit)

Buy both together for.....£738.00

SPECIAL OFFER: PRICE NOW *INCLUDES* DOLPHIN COPY

DOLPHIN DOS

THE EFFECT IS STAGGERING.

Best Hardware Utility of year

The **established standard** parallel operating system for the 64/128 and 1541 disk drive. Now in use with most of the top software houses including **Gremlin, Software Projects, Thalamus, CRL Alligata, Superior etc. etc.** as well as many of the top independant software programmers

The speed and efficiency is **incredible**, who would believe that the humble old 1541 could load **202 blocks in less than 5 secs**. It is compatible with the majority of commercial software and can be switched out when necessary. One of the real pleasures of using this system is to use it with the likes of Easyscript & Superbase to speed up both the **normal loading and the sequential files**. It is important to point out that this is achieved using **standard** CBM disk format and not a special system, therefore you can still use your existing disks.

INSTALLATION

Fitting involves fitting two sub assembly boards, one in the 64/128 and one in the 1541. Normally these just plug in but some '64s need a small amount of soldering.

ONLY £69.95

EXTRAS AVAILABLE

User port expansion card.....**£14.95**
Kernal for '128 in '128 mode.....**£9.95**
Second drive assembly.....**£44.95**
Dolphin Copy (selection of copiers includes very powerful nibbler, extra fast unprotected and selective file).....**£7.95**

SOME OF THE FEATURES

- LOAD speed 25x normal (PRG)
- SAVE speed 12x normal (PRG)
- LOAD speed 12x normal (SEQ)
- SAVE speed 8x normal (SEQ)
- LOAD/SAVE 3x normal (REL)
- Easy & fast DOS commands
- Format 40 tracks (749 blocks)
- Monitor built in
- LOADs 202 blocks in 5 secs
- Enhanced screen editor
- Drives centronics printer
- Extra BASIC commands
- Compatible with standard DOS
- Can be switched out

Disks Boxes

25 bulk packed DS/DD disks. With sleeves, w/p tabs and labels. Good quality & fully guaranteed..... **£13.95**

25 disks + box. Disks as above plus 50 capacity locking storage box..... **£22.95**

25 disks + box. As previous offer but with 100 capacity locking box. A very popular offer..... **£24.95**

50 capacity box. High quality lockable disk storage. Smoked perspex top..... **£10.95**

100 capacity box. Larger capacity version of above..... **£13.95**

In Australia contact: Micro Accessories of S.A., Unit 8, Hewittson Rd, Elizabeth West, S. Australia 5113.Tel: (08) 287-0191

FOR SPEED, POWER AND EASE OF USE

FREEZE MACHINE

Now with.. "Single part save" Includes.. "Freeze Frame MkV & Lazer II"

- **Freeze...** Totally unstoppable Freeze facility from the originators.
- **Fast Save...** Saves in as little as 15 seconds. Nothing else can match this
- **Multiple Save...** Make as many saves as you want once frozen, in different styles if you wish.
- **Ultra Compact...** The most efficient compacter? Our tests indicate this, as many as 5-6 games per disk.
- **Game Killer...** Incorporates an effective routine to disable collision detection.
- **Independant...** Even produces stand alone Lazer files that reload in as little as 10 seconds.
- **Ease of use...** Always a strong feature, now even more enhanced.
- **Multi-Load...** Standard cartridge handles many games of this type. With the utility disk even more!
- **Fast Format...** Formats your disks in about 12 seconds.
- **File Copier...** Built in fast copier handles files up to 248 blocks long and is really easy to use.
- **Two Fastloads...** A normal disk turbo at 5-7 times normal PLUS the astonishing Lazer at 20+ times normal...BUILT IN.
- **Selectaload...** Just use cursors to scroll to the program you want and press a function key.
- **Reset...** Built in, so you can enter pokes for more lives etc.
- **Tape Turbo...** For quick save/reload on tape.

CHILLS THE REST!

"...far outstrips the opposition on both price and performance ..." Commodore Review

"...the most exciting and lightning fast I have ever used..." Commodore Computing International

Why Freeze Machine?

This is the latest and most effective backup cartridge from Evesham Micros, the originators. It's speed of operation is the staggering feature. Imagine being able to SAVE & reLOAD your favourite games in as little as 10 seconds and no more than 18. No other "device" can remotely match these figures...remember these facilities are *built in.* Buy the "Freeze Machine" and see it perform, if you don't agree that it is the most formidable cartridge available return it within your statutory 28 days for full refund, we are that confident.

ONLY £28.95

UPGRADES

MkI, II, III, IIIB....	£19.95
MKIV.....	£ 7.95
Lazer.....	£ 2.00

FREEZE MACHINE Strikes Back

Freeze Machine Utility Disk V3.0

Latest version of the disk that complements the use of the Freeze Machine. Includes well over 30 routines. Allows the complete transfer to disk of many programs that load extra parts as the game progresses (the ones the standard cartridge cannot handle). Includes many of the latest popular titles like Last Ninja & Gunship plus many "standards" like World Games & Supercycle. A very useful add-on to your Freeze Machine.

Upgrades: £2.00

ONLY £7.95

QUICKDISC+ Disc Disector V5.0 DOUBLER

Our highly popular fast load/save plus utility cartridge has received many favourable reviews.

- FAST LOAD (5-7 times faster)
- FAST SAVE (5-7 times faster)
- FAST FILE COPY (up to 248 blocks)
- RESET BUTTON (unstoppable)
- DRIVES CENTRONICS PRINTER
- FAST FORMAT
- FAST DISK BACKUP
- EASY DOS COMMANDS
- HELP MENU
- 128 COMPATIBLE ('64 mode)

only £19.95

Our well established and extremely popular disk backup/utility package. The powerful nibblers can produce backups of **most protected software.** Also includes many parameters for difficult to copy software. This latest version will handle many titles by Hewson, Ocean, Domark & U.S. Gold that rival products can not. **Beware** of American & German copy programs that will not handle the popular British titles.

INCLUDES THE FOLLOWING

- EVESHAM 3 MINUTE NIBBLER
- EVESHAM 8 MINUTE NIBBLER
- MANY PARAMETERS (the vital code for the protection schemes)
- DUAL DRIVE NIBBLER
- MENU MAKER
- DISK ORDERLY
- DISK RESCUE
- UNSCRATCH
- DISCMON+
- ETC., ETC.

only £19.95

The whole package is easy to use and menu driven. Works with '128 in '64 mode and most routines 1570/1 compatible. Perfect operation with Excelerator+.

***THE* Tape Backup "device"**

Many thousands of this popular product have been sold and still sales flourish. **Why?** We think because it is the best product of it's type. It consists of hardware and software and uses a unique method, controlled by the software, that will allow you to make a perfect backups of your tape software.

- EASY TO USE
- VERY SUCCESSFUL
- USES TWO CBM TYPE DATA RECORDERS

only £12.95

1541 Quiet Stops

Cures the dreaded 1541 drive "hammering"!!

- EASY TO FIT
- DETAILED INSTRUCTIONS
- ONE KIT DOES TWO DRIVES
- HELPS PREVENT ALIGNMENT PROBLEMS

Not suitable for "turn lever" type drives

only £4.95

1541 Physical Exam

Does your 1541 suffer from...

ALIGNMENT PROBLEMS

If so you need this package. Contains digital alignment disk and drive fault diagnosis software that allows you to both check **and correct** head alignment & speed.

- CHECKS ALIGNMENT
- CHECKS SPEED
- CHECKS BELT & CLAMPING
- DETAILED INSTRUCTIONS
- INCLUDES QUIET STOPS

only £39.95

Evesham Micros

All prices INCLUDE VAT/delivery. Next day delivery £5.00 extra

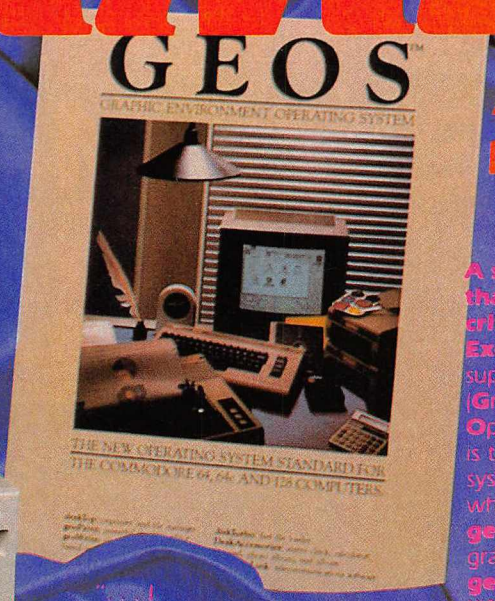
How to order

Send cheque/P.O. or Access/Visa details
By phone with Access/Visa no.
Government, educational & PLC orders welcome
Same day despatch whenever possible
Callers welcome, open 6 days 9.30-5.30
TELEX: 333294 EMICRO

Evesham Micros
63 Bridge Street
Evesham
Worcs. WR11 4SF
TEL: (0386) 41989
TELEX: 333294 EMICRO

Also at; 1756 Pershore Rd., Cotteridge, Birmingham B30 3BH Tel; 021 458 4564

DYNAMIC DUO



A SUPERB BUNDLING OFFER

A superb bundling offer that combines the critically acclaimed Excelerator+ with the super sophisticated **GEOS** (**G**raphic **E**nvironment **O**perating **S**ystem). **GEOS** is the GEM-like operating system for the 64/128 from which you can access **geoPAINT**, a full-featured graphic workshop, **geoWRITE**, an easy-to-use WYSIWYG word processor and the **Desk Accessories** which include Calculator, Notepad, Alarm, etc. Many more extensions are available, such as **geoCALC**, **geoDEX**, etc.

Features . . .

- **E**xtremely compatible
- **X**cellent value
- **C**ompact size
- **E**xtra reliable
- **L**ow noise
- **E**xternal 8/9 switch
- **R**ave reviews
- **A**ttractive appearance
- **T**urbos, no problem
- **O**ne year guarantee
- **R**uns cool
- +Direct drive motor

"... my only complaint was that the label on the front of the drive was put on crooked! ..."
RUN 64

"... I wish the Excelerator had come out two years ago ..."
Commodore Computing International

"... The Excelerator behaved admirably throughout. It does exactly what the 1541 does ..."
Commodore User

"... I'd rather buy an Excelerator+ than a 1541C or a 1570 or a 1571 ..."
ZZAP 64

"... The Excelerator+, though seems to cope faultlessly with commercial software ..."
Popular Computing Weekly

"... the drive does have dramatic improvements over the 1541 in quality and reliability ..."
COMPUTE!'s Gazette

Excelerator+ and GEOS £159.95

Excelerator+ and GEOS, *PLUS* Freeze Machine £179.95

This package normally retails for **£49.95** but you can obtain it absolutely **FREE** with the purchase of an Excelerator+

We guarantee that this drive is *MORE* compatible than the 1541C

SLIMLINE 64

A stylish modern replacement case for the CBM 64 of which *your Commodore* magazine said

"... Fitting the case is simplicity itself and should present no problem to anyone with even a rudimentary knowledge of how to hold and use a screwdriver."

"... The Slimline 64 case is a vast improvement on the old style. It not only looks nicer but does make it a lot more comfortable in use. My only question is, why didn't someone think of it before?"

Your '64 could look like this for just . . . £19.95

Available from good computer stores or direct from Evesham Micros

Prices include VAT. Delivery FREE.
Send cheque/P.O. or ACCESS/VISA details
Or phone with your ACCESS/VISA No.
Same day despatch whenever possible.
Govt., educational & PLC orders accepted.
Callers welcome, open 6 days 9.30-5.30
Next day delivery **£5.00** extra.

Evesham Micros
63 Bridge Street
Evesham
Worcs. WR11 4SF
Tel: (0386) 765500
Telex: 333294 EMICRO

Access VISA

EASY MUSIC

Commodore 64 Music Part 4 Ian Waugh sifts through SID's Filters

Filters are an essential part of the synthesiser's armoury. In a personal computer, however, they are quite rare and rather a luxury. The filters in the Commodore 64 enable us to refine and hone our sound to a high degree.

What is a filter?

A filter is used to filter out or remove harmonics from a waveform. The tone controls on a Hi-Fi is a type of filter. The SID chip contains three types of filters which each remove a different combination of harmonics.

If we plot the harmonics of a wave against their amplitudes we will generally find that the fundamental, the tone which gives the wave its pitch, is the strongest or loudest. As the harmonics increase in frequency they are generally quieter.

Within this spread of harmonics we need a reference point from which to centre the filter's effect. This reference point is called the cutoff point or cutoff frequency and is adjustable. In the SID chip it covers a range of approximately 30Hz to 12kHz. Let us have a look at a filter now and put these terms into perspective.

The low pass filter

This is the most common of all filtes and, as its name implies, it passes low frequencies. Figure 7.1 shows how the harmonic content of a sawtooth wave is affected by the response curve of a low pass filter. In this example, the higher frequencies are cut down or attenuated from the reference point or cutoff frequency. You can see that the first few harmonics are unaffected.

If the cutoff frequency is increased, the cutoff point on the diagram would move to the right and so allow more high harmonics through. As this filter passes the lower harmonics, it produces a full sound.

The high pass filter

This passes the high frequencies and attentuates the lower ones. It is a mirror image of the low pass filter and its effect on the harmonic content of a wave is illustrated in Figure 7.2.

It can be seen that the fundamental frequency will be attenuated which would seem to indicate that the wave would lose its pitch. Experiments have shown, however, that if the ear is given a series of harmonics or overtones which fall within the harmonic series it will 'hear' the fundamental pitch even if it is completely missing. This enables us to hear, for example, a note as low as 16Hz providing the accompanying harmonics are present. 16Hz is below our normal hearing range but we hear the harmonics and mentally infer the fundamental. All of which just goes to confirm what a complicated process our sense of hearing is.

The band pass filter

This passes a band or group of frequencies either side of the cutoff point and is illustrated in Figure 7.2. The bandwidth determines how wide a band of frequencies will pass through although we can not alter this on the 64. The average band pass filter has a narrow band width.

As this filter also attenuate the lower harmonics it, too, will produce thin sounds.

Combining filters

We can use the three filters in any combination. Due to their arrangement in SID, the overall effect will be one of passing a sound through them in parallel. The most useful combination is the low pass and high pass filters which combine to form a band reject or notch filter.

The band reject filter

This is the opposite of the band pass filter and it rejects or attenuates the frequencies around the cutoff point. You can see from Figure 7.2 how, if the curves of the low and high pass filters are combined, a band reject filter will be formed.

Altering the pitch

It can be seen from Figures 7.1 and 7.2 that as long as the cutoff point remains fixed, the harmonic content of the sound output will remain fixed only if the pitch of the wave is unaltered. Changing thepitch will effectively

Figure 7.1

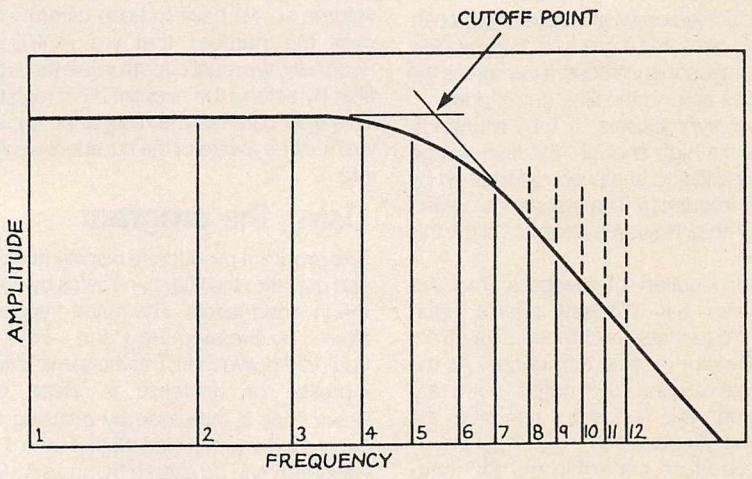
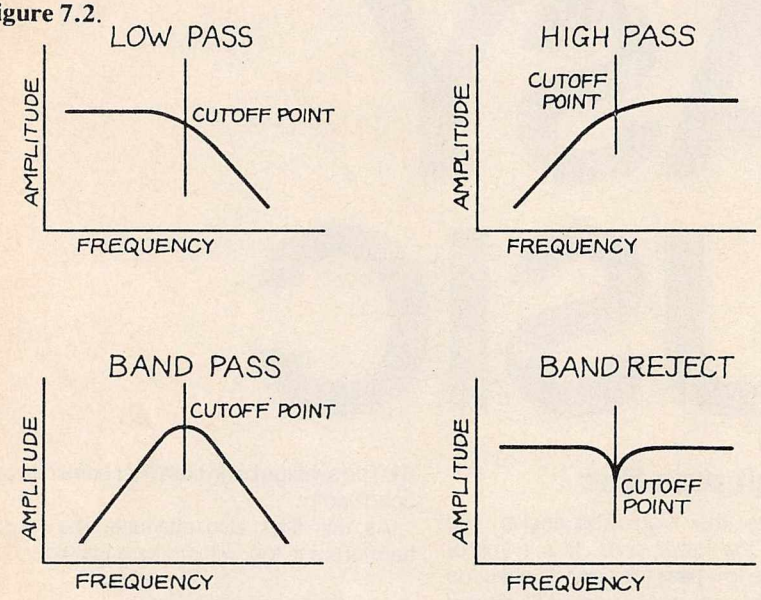


Figure 7.2.



move the harmonics left or right in relation to the filter slope.

Most synthesisers permit keyboard control of the filter to allow the cutoff point to follow the pitch. Also, the tone colour of most instruments changes with pitch: the higher pitches are usually brighter than the lower ones.

The waveform of many instruments, such as wind and brass, also changes with the production of each note. To achieve this would mean linking the envelope generator up to the filter.

We can duplicate these effects on the 64 by careful programming although BASIC is generally too slow to do this effectively.

Resonance

Resonance in filters is produced by introducing positive feedback into the system. A good example — although not aurally — of positive feedback is when the sound from a PA system enters the microphone and is continually amplified. The result is an ear-piercing scream.

If this is scaled down and controlled, it can be used to reinforce a group of frequencies. This is what resonance does: it reinforces the frequencies around the filter cutoff point.

In most synthesisers, if the resonance control is set high enough, the filter will go into self oscillation at a pitch determined by the cutoff frequency. The resonance control in the SID chip, however, does not allow this to happen.

The introduction of feedback into the system also has different effects upon different frequencies and those away from the cutoff point may be dampened. As the frequencies around the cutoff point are emphasised, this tends to reinforce the dampening effect.

The resonance control in the SID chip produces a marked and extremely useful effect but it does not introduce a lot of resonance into the system.

Resonance increases the intensity of a sound, as you will hear. Figure 7.3 illustrates the kind of effect various resonance and filter settings have on the waveform.

Practical filtering

After all this theory it's time to put the discussion to the test. The program will enable you to try out all the possible filter combinations and settings and hear their effects upon all the waveforms.

Programming the filters

Although there is only one basic filter in the SID chip, it can be set to produce any combination of the filter types we have discussed above. Each voice has the option of passing through it or not and to send a voice through the filter we must do two things.

First, we must select the filter type(s) by setting the relevant bit(s) in register 24 (see September issue). This also controls the volume so we have to keep careful control over the number that we POKE here. Secondly, we must direct a voice through the filter by setting the relevant bit in register 23. This also controls the resonance so, again, we must be aware of the numbers we POKE into it.

Using the program

The program produces a display from which you can alter the filter parametes by pressing the inverted letters. The cutoff frequency is altered by pressing the + and - keys and if you hold down SHIFT at the same time it will increase or decrease in steps of 50. Resonance is increased by pressing R and decreased by pressing SHIFT and R. The waveform can be altered by pressing W and if you select the pulse wave you will be asked to input the duty cycle as a percentage.

T plays a tune — alter the notes if/when boredom sets it — and N holds an A note at the selected octave. The tune spans two octaves and the selected octave is the one it starts in. With octave 0 it is barely a rasp.

When the low pass and high pass filters are selected they form a band reject filter and the screen shows when this is in operation.

If you hold down the R key you will hear how a rapid change in resonance produces a sort of wha-wha effect — although it doesn't change terribly quickly in this program. You can also hear the effect of rapidly altering the cutoff frequency, i.e. sweeping the filter, by pressing A — make sure a note is sounding and the filter is on when you do. In auto mode the program will pause for as long as you hold down any key.

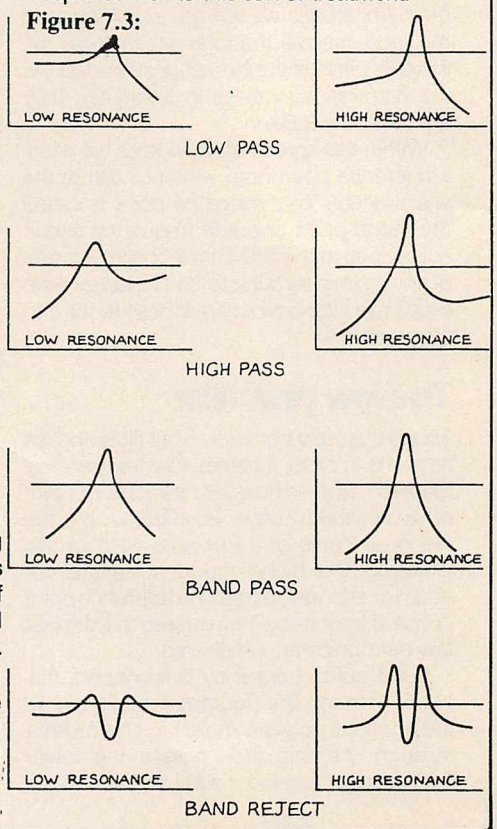
C displays the numbers in registers 21 and 22, i.e. those used to produce the cutoff frequency. The contents of registers 23 (RE) and 24 (FL) are also shown. You will notice how, as we increment the resonance by 1, RE increases by 16. Register 23 determines which voices are sent through the filter. As we only use voice 1 which is set by bit 0 you will see RE increment and decrease by 1 as the filter is turned on and off.

FL, register 24, also controls the volume which we set to 15 in line 2760 and it will not fall below that.

Experimenting with the program

You can hear how great an effect the filter has on a waveform. Even more dramatic are the sounds produced by sweeping the filter and rapidly changing the resonance. Noise responds well to this sort of treatment.

Figure 7.3:



MICRO MEDIA
Computer Supplies Ltd.

Freepost, Dept. CCI, Rydal Mount, Baker Street, Potters Bar, Herts EN6 3BR (NO STAMP REQUIRED)

0707 52698 (5 lines)

Head Cleaners

	1	2+	6+
5¼"	3.95	3.50	3.15
3½"	5.00	4.55	4.10

5¼ MICRO MEDIA Brand Discs
includes Plastic Library Case

	10	30	50	100	250
SS/DD	6.55	18.55	29.05	53.10	118.00
DS/40T	7.90	22.30	34.90	64.60	144.50
DS/80T	9.40	26.50	40.20	75.15	165.90
DS/HD for PCAT	20.10	57.20	90.10	168.60	385.55

5¼ Reversible discs (Flippy's)
Have two write protect notches & index holes.
Suitable for 40 or 80 track drives.

10	30	50	100	250
10.55	30.00	47.40	88.10	204.55

3½ MICRO MEDIA Brand

	10	30	50	100	250
SS/DD	17.55	50.45	80.25	147.70	347.80
DS/DD	18.75	53.90	85.95	159.20	376.55

All discs supplied are with labels, 5¼" write protects, envelopes & hub rings.

Discs purchased direct from one major manufacturer. 100% certified error free – lifetime guarantee.

PRICES INCLUDE V.A.T.

5¼ Rainbow Discs come in five colours

	25	50	100	250	500
SS/DD	16.50	30.75	57.10	134.50	252.45
DS/40T	17.95	33.10	60.70	141.45	262.20
DS/80T	19.00	35.20	64.85	148.75	276.00

5¼ Unbranded Discs

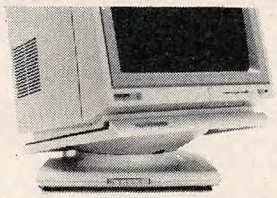
	10	30	50	100	250
SS/DD	9.80	19.35	36.40	86.55	163.85
DS/40T	10.95	20.65	38.20	89.70	172.50
DS/80T	11.80	22.30	41.60	95.75	179.50

3½ Unbranded Discs

	10	30	50	100	250
SS/DD	15.10	42.60	65.95	117.70	264.75
DS/DD	16.20	45.70	72.95	128.50	290.00

AUTUMN CATALOGUE OUT NOW – CALL OR WRITE FOR YOUR COPY

Monitor Swivel Bases



Pan tilt revolves around 360 degrees
12.5 degrees tiltable up and down
Adjustable by front mechanism.

55 x 280 x 260mm for 12" Monitors		55 x 355 x 320mm for 14" Monitors	
1	12.10	1	16.70
3+	10.99ea	3+	15.15ea
6+	10.35ea	6+	14.30ea

Adjustable Copy Holder

A4 adjustable desk clamping.
Magnifying cursor line.
Paper thickness adjustment.
Paper height adjustable clip.

A4 Version 25.35
Holds up to 300g

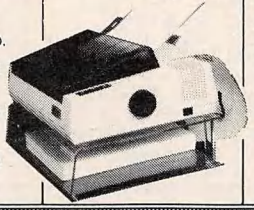
Desk Top Version 13.69
Holds up to 1000g

A3 Version 40.65
Holds up to 1400g

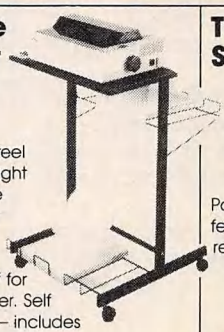
Printer Stand
5mm perspex

80 Column Version
400 x 310 x 100mm
21.65

132 Column Version
600 x 310 x 100mm
29.30



Mobile Printer Stand



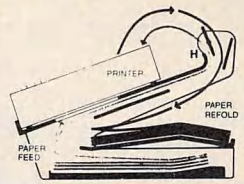
Rugged steel frame. Height adjustable basket for output paper & base shelf for input paper. Self assembly – includes castors.

80 column £52.90
132 column £65.40

The Space Saver

Paper feed and refold positioned one above the other. Dial controlled paper feed with adjustable deflectors ensures smooth flow and automatic refolding.

80 column 414x380x460mm		132 column 530x380x460mm	
1	34.85	1	42.50
3+	32.75	3+	40.00
6+	31.05	6+	38.30



Printer Ribbons

	Prices (£) per each ribbon 3	6	12
Amstrad 8512/8256	5.65	5.35	4.90
R, G, BR, BL, Y	7.50	7.10	6.55
DMP 2000/3000	2.80	2.60	2.35
Brother HR15 MS	3.30	3.10	2.80
R, BR, BL	4.35	4.10	3.75
Centronics GLP	3.65	3.45	3.15
R, G, BR, BL, Y	4.65	4.40	4.00
Canon 1080/1156	3.30	3.10	2.80
R, G, BR, BL, Y	4.95	4.65	4.25
Citizen 120 D	4.70	4.35	4.15
Diablo Hytype II MS	2.80	2.65	2.40
R, BR, BL	3.80	3.55	3.25
Epson			
FX/MX/RX 80 FX 800	3.55	3.35	3.10
R, BR, BL, G, Y	4.95	4.65	4.25
MX 100/FX 1000/FX 105	4.65	4.35	4.20
R, BR, BL	5.85	5.55	5.10
LX 80/86 GX 80	2.80	2.65	2.40
R, G, BR, BL, Y	4.70	4.45	4.05
Juki 6100 MS	3.30	3.10	2.80
6100 SS	2.05	1.90	1.75
R, BR, BL	2.75	2.60	2.35
Kaga KP810/910	3.30	3.10	2.80
R, G, BR, BL, Y	4.95	4.65	4.25
M/Tally MT80 MS	4.10	3.85	3.55
Panasonic KXP110	5.50	5.20	4.75
R, G, BR, BL, Y	7.20	6.80	6.25
Qume IV MS	3.30	3.10	2.80
Fabric	3.30	3.10	2.80
Star NL 10	5.50	5.20	4.75
Shinwa CP80 MS	4.10	3.85	3.55

One off if ordered with other product
Please mix colours and types for best prices
R = Red, BR = Brown, BL = Blue, G = Green, Y = Yellow

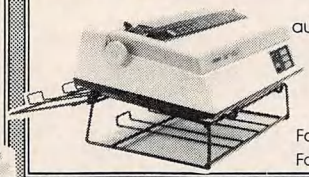
If the ribbon you require is not listed please let us quote

The above is a small selection of the 250 different ribbons we stock. We shall be pleased to find your ribbon, however old or obscure.

MD 120
1 12.55 5¼" x 120
3+ 11.90 each
6+ 11.35 each

MD 50
5¼" x 50
1 7.80
3+ 7.40 each
6+ 7.10 each

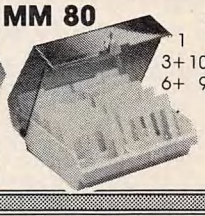
Wire Printer Stand
stacks print-out in document tray automatically. Suitable for most standard printers. Made of safety coated steel wire.
For 80 column £14.50
For 132 column £16.50



MD 100
5¼" x 100
1 10.80
3+ 10.30 each
6+ 9.80 each

MM 40
3½" x 40
1 8.30
3+ 7.90 each
6+ 7.50 each

MM 80
3½" x 80
1 10.95
3+ 10.40 each
6+ 9.90 each



Computer Labels
Continuous fanfold, sprocket fed

	Price per 1,000	3,000
70 x 36	3.85	11.55
89 x 36	5.65	14.25
89 x 49	7.95	20.40
102 x 36	6.35	15.30

Please state no. of labels across the sheet (1, 2 or 3)

Computer paper
Plain fanfold, micro perf edges

Size	Weight gsm	1000s per box	1 box	3 bxs +
11x9½	60	2	16.90	43.80
	80	2	20.90	53.55
Exact A4				
11⅞x9¼	70	2	22.50	58.50
	90	1	16.90	45.15

ALL PRICES INCLUSIVE OF POSTAGE & PACKING AND V.A.T.

MICRO MEDIA
Computer Supplies
Freepost, Dept. CCI, Rydal Mount, Baker Street, Potters Bar, Herts. EN6 3BR

Access & Visa

Out of Office Hours (Answer machine)
0707 52698 (5 lines)
Orders despatched 24 hrs.
Please allow 5 days for delivery.
For next day delivery, please ring for details. Postage covers U.K. only.

A **Catalogue** is available with a more comprehensive range of products including – 3M & Verbatim discs – a wider choice of paper labels, ribbons and accessories.
Ring or write to obtain your copy now!

Educational and HMG orders accepted. For official orders/invoice/credit orders there is a minimum order value of £15.00 excluding V.A.T. Any order under £15.00 will be subject to £3.00 handling charge.

Personal callers welcome
Weekdays 8.30am - 5.30pm
Saturdays 9.30am - 1.00pm

-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-MICRO MEDIA-

Commodore Music Part 4

The range of sounds which can be produced with the filter is enormous and when you use these sounds with a suitable ADSR envelope (see November issue) you will begin to see the power and flexibility of the SID chip.

Differences in the SID chip filters

Commodore have issued a technical note which says that owing to variations in the SID chip, it is not advisable to include filter settings in commercial software. This might result in unintentional sounds or even sounds which can not be heard on some 64s.

That being so, some filter settings may not sound the same on your 64 as they do others. It would be a grea pity to leave out filter settings all together but, at least you are aware of the situation.

Next time we'll look at some musical effects such as chorus, tremolo and echo.

Ian Waugh

```
1000 REM PROGRAM 7.1
1010 REM FILTER EXPERIMENTS
1020 :
1030 GOSUB 2580:REM INITIALISE
1040 :
1050 PRINT"[CLR]";
1060 PRINT"[HOME]"TAB(11)"FILTER    EXPER
IMENTS[CD]"
1070 PRINT" [RVS]W[RVOJAVEFORM     ";W$(W
A);
1080 IF WA<>3 THEN PRINT:GOTO 1100
1090 PRINT"    DUTY CYCLE =";DC;"[CL]%"
1100 PRINT"[CD] [RVS]F[RVO]ILTER
";FI$
1110 PRINT"[CD] [RVS]L[RVO]OW  PASS
";LP$;TAB(22)"FL(S+24) =";FL;"[CL]  "
1120 PRINT" [RVS]H[RVO]IGH PASS     ";HP
$
1130 PRINT" [RVS]B[RVO]AND PASS     ";BP
$
1140 PRINT" BAND REJECT    ";BR$
1150 PRINT"[CD] [RVS]+[RVO] [RVS]C[RVO]U
T OFF [RVS]-[RVO]  ";TAB(22)"[RVS]A[RVO]
UTO OFF"
1160 PRINT" [RVS]R[RVO]ESONANCE     ";RR;
"[CL] ";TAB(22)"RE(S+23) =";RE;"[CL]  "
1170 PRINT"[CD] [RVS]T[RVO]UNE    [RVS]N[
RVO]OTE    ";NO$;TAB(22)"[RVS]O[RVO]CTAVE
";OC
1180 PRINT"[HOME][CD][CD][CD][CD][CD][CD
][CD][CD][CD][CD][CD]";TAB(14)CU;"[CL]
 "
1190 :
1200 GET CO$:IF CO$="" GOTO 1200
1210 IF CO$="W" THEN GOSUB 1680:GOTO 105
0
1220 IF CO$="T" THEN GOSUB 1370
1230 IF CO$="N" THEN GOSUB 1540
1240 IF CO$="F" THEN GOSUB 1900
1250 IF CO$="L" THEN GOSUB 1970
1260 IF CO$="H" THEN GOSUB 2050
1270 IF CO$="B" THEN GOSUB 2180
1280 POKE 650,255:REM AUTO REPEAT ON
1290 IF CO$="O" THEN GOSUB 1620:GOTO 106
0
1300 IF CO$="R" OR CO$="_" THEN GOSUB 24
90:GOTO 1060
1310 IF CO$="C" OR CO$="+" OR CO$="-" OR
 CO$="A" THEN GOSUB 2250:GOTO 1180
1320 IF CO$="+" OR CO$="↑" THEN GOSUB 22
50:GOTO 1180
1330 POKE 650,0:REM AUTO REPEAT OFF
1340 GOTO 1060
1350 :
1360 REM PLAY TUNE
1370 RESTORE
1380 FOR N=1 TO 5:REM NOTES
1390 READ FQ:FQ=INT(FQ/2^(7-OC))
1400 HF=INT(FQ/256):LF=FQ-256*HF
1410 POKE S+1,HF:POKE S,LF
1420 TM=TI:REM SET TIMER
1430 POKE S+4,W:REM GATE ON
1440 IF TI<TM+32 THEN 1440:REM DURATION
1450 POKE S+4,W-1:REM GATE OFF
1460 NEXT
1470 IF NO=1 THEN NO=0:GOSUB 1540
1480 RETURN
1490 :
1500 REM  NOTE DATA IN 16 BIT FORM
1510 DATA 38539,43258,34334,17167,25721
1520 :
1530 REM CONTINUOUS NOTE
1540 FQ=INT(BA/2^(7-OC))
1550 HF=INT(FQ/256):LF=FQ-256*HF
1560 POKE S+1,HF:POKE S,LF
1570 IF NO=0 THEN NO=1:NO$="[RVS]ON[RVO]
 ":POKE S+4,W:GOTO 1590
1580 NO=0:NO$="OFF":POKE S+4,W-1
1590 RETURN
1600 :
1610 REM CHANGE OCTAVE
1620 OC=OC+1
1630 IF OC>7 THEN OC=0
1640 IF NO=1 THEN NO=0:GOSUB 1540
1650 RETURN
1660 :
1670 REM GET WAVEFORM
1680 PRINT"[CD][CD][CD][CD] 1) TRIANGLE"
1690 PRINT" 2) SAWTOOTH"
1700 PRINT" 3) PULSE"
1710 PRINT" 4) NOISE"
1720 PRINT"[CD] [RVS]ENTER NUMBER[RVO]"
1730 :
1740 GET A$:IF A$<"1" OR A$>"4" GOTO 174
0
1750 WA=VAL(A$)
1760 W=2^(WA+3)+1
1770 IF W<>65 GOTO 1860:REM NOT PULSE
1780 :
1790 INPUT"[CD]INPUT % OF DUTY CYCLE";DC
1800 P=INT(DC*40.95+.5):REM 12 BIT NUMBE
R
1810 PH=INT(P/256):PL=P-256*PH
1820 PRINT"  P=";P,"PH=";PH,"PL=";PL;
1830 POKE S+3,PH:POKE S+2,PL:REM SET PUL
SE WIDTH
1840 :
1850 GET A$:IF A$="" GOTO 1850
1860 IF NO=1 THEN NO=0:GOSUB 1540:REM IF
 NOTE IS ON, SET NEW WAVE
1870 RETURN
1880 :
1890 REM TURN FILTER ON/OFF
1900 IF FI=0 THEN FI=1:FI$="ON ":GOTO 19
20
1910 FI=0:FI$="OFF"
1920 RE=(RE AND 240 OR FI)
1930 POKE S+23,RE
1940 RETURN
1950 :
1960 REM LOW PASS
1970 IF LP=0 THEN LP=1:LP$="ON ":GOTO 19
90
1980 LP=0:LP$="OFF"
1990 FL=(FL AND 239 OR LP*16)
2000 POKE S+24,FL
2010 GOSUB 2120:REM ADJUST BAND REJECT
2020 RETURN
2030 :
2040 REM HIGH PASS
2050 IF HP=0 THEN HP=1:HP$="ON ":GOTO 20
70
2060 HP=0:HP$="OFF"
2070 FL=(FL AND 191 OR HP*64)
2080 POKE S+24,FL
2090 GOSUB 2120:REM ADJUST BAND REJECT
2100 RETURN
2110 :
2120 REM BAND REJECT
2130 IF LP=1 AND HP=1 THEN BR$="[RVS]ON[
RVO] ":GOTO 2150
2140 BR$="OFF"
2150 RETURN
2160 :
2170 REM BAND PASS
2180 IF BP=0 THEN BP=1:BP$="ON ":GOTO 22
00
2190 BP=0:BP$="OFF"
2200 FL=(FL AND 223 OR BP*32)
2210 POKE S+24,FL
2220 RETURN
2230 :
2240 REM SET CUT OFF FREQUENCY
2250 IF CO$<>"A" GOTO 2310:REM NOT AUTO
2260 PRINT"[HOME][CD][CD][CD][CD][CD][CD
][CD][CD][CD][CD][CD]";TAB(27)"[RVS]ON[R
VO] "
2270 FOR CU=0 TO 2047 STEP 10:GOSUB 2380
:NEXT
2280 FOR CU=2047 TO 0 STEP -10:GOSUB 238
0:NEXT:CU=0
2290 PRINT"[HOME][CD][CD][CD][CD][CD][CD
][CD][CD][CD][CD][CD]";TAB(27)"OFF":GOTO
 2460
2300 :
2310 IF CO$="↓" THEN CU=CU-50
2320 IF CO$="↑" THEN CU=CU+50
2330 IF CO$="+" THEN CU=CU+1
2340 IF CO$="-" THEN CU=CU-1
2350 IF CU<0 THEN CU=2047
2360 IF CU>2047 THEN CU=0
2370 :
2380 CH=INT(CU/8):CL=CU-8*CH
2390 PRINT"[HOME][CD][CD][CD][CD][CD][CD
][CD][CD][CD][CD][CD]";TAB(14)CU;"[CL]
 "
2400 IF CO$="A" THEN AA=PEEK(197):IF AA<
>64 GOTO 2400:REM HOLD UP PROGRAM
2410 IF CO$<>"C" GOTO 2450
2420 PRINT"[CD][CD][CD][CD] CH =";CH;" C
L =";CL;
2430 GET A$:IF A$="" GOTO 2430
2440 PRINT"[CL][CL][CL][CL][CL][CL][CL][C
CL][CL][CL][CL][CL][CL][CL][CL][CL][CL][C
CL]                  "
2450 POKE S+22,CH:POKE S+21,CL
2460 RETURN
2470 :
2480 REM RESONANCE
2490 IF CO$="R" THEN RR=RR+1
2500 IF CO$="_" THEN RR=RR-1
2510 IF RR>15 THEN RR=0:GOTO 2530
2520 IF RR<0 THEN RR=15
2530 RE=(RE AND 15 OR RR*16)
2540 POKE S+23,RE
2550 RETURN
2560 :
2570 REM INITIALISE
2580 POKE53280,2:REM BORDER = RED
2590 POKE53281,14:REM SCREEN = LT BLUE
2600 PRINT"[BLU]":REM TEXT = BLUE
2610 :
2620 W$(1)="TRIANGLE"
2630 W$(2)="SAWTOOTH"
2640 W$(3)="PULSE"
2650 W$(4)="NOISE"
2660 LP$="OFF":HP$="OFF":BP$="OFF":BR$="
OFF":FI$="OFF":NO$="OFF"
2670 OC=4:REM OCTAVE
2680 RE=0:REM RESONANCE/FILTER CONTROL
2690 CU=0:REM CUTOFF FREQ
2700 BA=57743:REM BASE FQ FOR NOTES=A7
2710 WA=1:W=17:REM SET WAVE TO TRIANGLE
2720 :
2730 S=54272
2740 FOR I=STOS+24:POKEI,0:NEXT:REM CLEA
R SID
2750 POKE S+5,0:POKE S+6,249:REM ADSR
2760 POKE S+24,15:FL=15:REM SID ON VOL=1
5
2770 RETURN
```

BOBSLEIGH

CASSETTES £9.95
DISKS £14.95

AVAILABLE FOR SPECTRUM, AMSTRAD CPC & COMMODORE 64

Bobsleigh is a spectacular simulation of a fast and dangerous Winter Olympic Sport.

Equip your team, set up your bob and go for the perfect run.

Practise on all major tracks with an unrivalled feeling of speed and cornering until you are ready for the World Cup and Olympic Games.

Join the Olympic team and go for gold!

DIGITAL INTEGRATION
Watchmoor Trade Centre,
Watchmoor Road,
Camberley, Surrey
GU15 3AJ

EPYX

"We want to cover the whole gamut of games products... We want to be a major player in all home categories..."

Epyx has a highly professional management team. They are led by David Morse — the Chief Executive Officer. In European terms that means Managing Director. Morse has other claims to fame in the Commodore world (see Box) but now his energies are concentrated on bringing to Epyx a sharp technological leadership, driving it toward outstanding quality and originality in computer games and areas into which that widening field can stretch.

Epyx is famed already for the exceptional quality and creativity of its entertainment software products like World Games set new standards for a particular style of home computer wizardry. They are more American than European or UK in type. They offer not just the immediate kick of a flashy quick-scrolling shoot 'em up but are designed almost as compilations of different games that require expert joystick work in a whole range of varied challenges.

Epyx current releases Epyx Epics and California Games are examples of the quality of this "Epyx Style". Both are full-price but full value productions. Both are clearly built to stand not just hours but weeks or even possibly months of demanding play. They are for the serious player who isn't likely to find in a budget game anything that comes near the feeling of continued excitement and entertainment that an Epyx product can bring.

Another Epyx characteristic is to produce not just a whole series of games linked in a single package like "World" or "Winter" Games but to chain that one package series to other releases so that the player who gets the thrills of one will be pulled into buying another. This is being done with Epyx new series called Street Sports. It has started with the successful Street Sports Baseball, which considering the rarity of Baseball in the UK and the rest of Europe has done surprisingly well already. It is now to be followed by Street Sports Basketball which looks an outstandingly playable product and early in 1988, by Street Sports Football — soccer that is not US gridiron play.

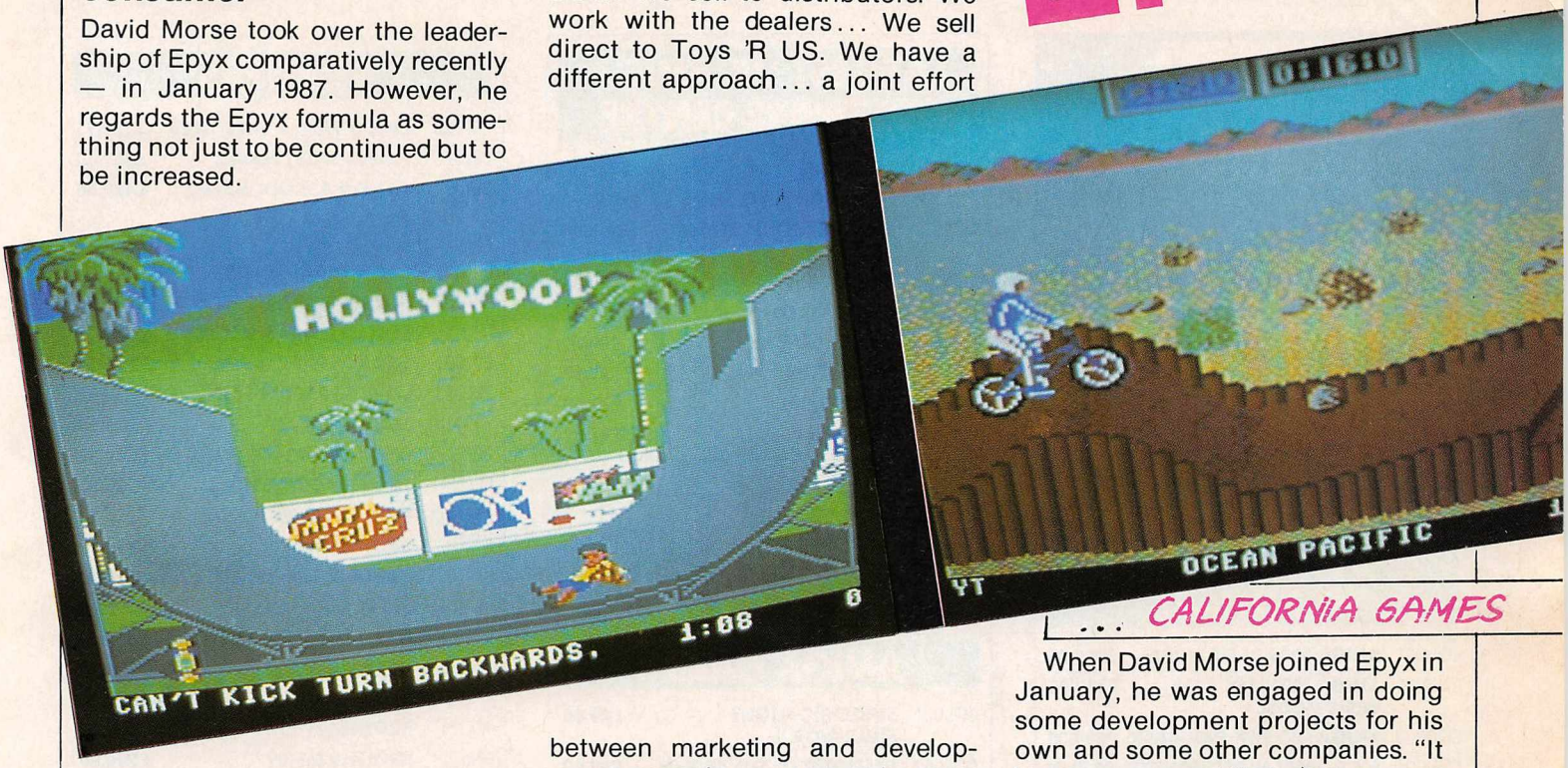
While it is obvious that such marketing for a series can interest a player and make sure he knows of all these Epyx releases, what really makes this most effective is that, going by Epyx past record, there won't be any playing reason not to buy *all* the games in the series. For Epyx games usually get better as they go along — unlike many sequels where the first flush of creativity dries up and the games just become pale copies of the original hit.

...EPYX EPICS

EPYX

"To be a survivor in this business, you've got to mean something to the consumer"

David Morse took over the leadership of Epyx comparatively recently — in January 1987. However, he regards the Epyx formula as something not just to be continued but to be increased.



... CALIFORNIA GAMES

"Epyx is heading wider than the present market... We want to cover the whole gamut of games products. We want to do other things... We want to do arcade, action games... adventure... We want to be major player in all home categories... To be a survivor in this business, you've got to mean something to the consumer."

The European consumer is probably aware that Epyx marketing here is carried out by US Gold. Recently the links between the two companies have been strengthened and Epyx is now responsible for distributing the successful British label's products in the US.

The connection between the two is no accident. US Gold was founded on the acumen of Geoff Brown in going to the States and getting the rights to the major games available in 1984. It was US Gold's local knowledge and sales know-how that made it all work. David Morse believes that situation still applies. "Successful companies rely on local management." He says. "Natives of countries who understand the markets can really do a much better job than Americans 7000 miles away. We'd rather pour our money into developing a product... We don't have a big ego need to be a big baby with Epyx on it... We can do it in the US... We sell to distributors. We work with the dealers... We sell direct to Toys 'R US. We have a different approach... a joint effort between marketing and development people... a good savvy marketing person who's interested in games... sits down with a developer... it's a team approach... California Games doesn't happen by accident... Different people did different games and ideas came from marketing. The common view is that the publisher makes the decisions but we like to build the content... It's the Epyx style..."

"We should have at least a couple of products that don't succeed or we're not pushing hard enough"

He believes that development of outstanding products demands the taking of chances. "We should have at least a couple of products that don't succeed or we're not pushing hard enough... One product each year — off the wall..." Which will that product be this year? He grins. "We'll be starting next year..."

EPYX

When David Morse joined Epyx in January, he was engaged in doing some development projects for his own and some other companies. "It became apparent that what we were doing and what Epyx needed were very similar..." He comes back to the Epyx philosophy. "What is very very important for Epyx is quality... the most important thing for a company like Epyx to do is create great products. Gil Freeman (Epyx other boss) got it running. Gil is excellent at running it day-today... I'm involved in development... I want Epyx to be Number One in home software. That's our primary goal... A more diversified, technology-based, entertainment-based company." he speculates where the home electronic world might go. "Maybe based on laser disk... VCR... and the next generation... RISC... now that will be a great games machine..."

As one of the two men most responsible for the creation of the Amiga, designed too as a great games machine, David Morse should know a little about that. As the boss of one of the top games software companies in the world he is also in the position to offer an expert opinion on where the home entertainment business might be heading. Wherever it is going, David Morse and Epyx look like challenging for the leadership.

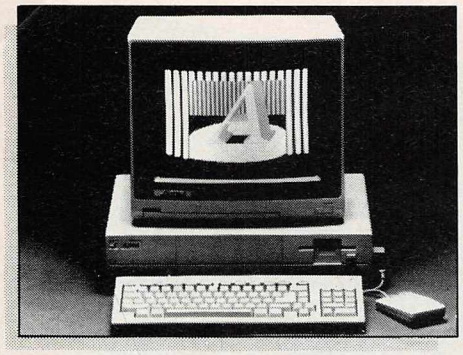
PUTTING · THE · FUTURE · INTO · YOUR · HANDS

Commodore

PEARTREE COMPUTERS LTD

Approved Commodore Dealer

Peartree House, No 1 Blackstone Road, Stukeley Meadows Industrial Estate, Huntingdon, Cambs PE18 6EF. Telephone (0480) 50595



AMIGA

COMMODORE HARDWARE

COH001	AMIGA 2000 BASIC MODEL	£995.00
COH002	AMIGA 1000256K RAM BASIC MODEL	£339.00
COH003	AMIGA 500 512K RAM BASIC	£399.00
COH004	AMIGA 1081 HI RES MONITOR	£229.00
COH005	AMIGA 2ND DRIVE 3.5 INCH	£119.00
COH006	INSIDER 1MB RA1 CARD	£309.00

LARGEST UK AMIGA SOFTWARE CENTRE

COS001	SOFTWOOD FILE II SOUND GRAPHIC	£99.00
COS002	MIAMIGA LEDGER DISCOVERY GAME	£79.00
COS003	DISCOVERY GAME MATHS & SPELL	£33.00
COS004	SCRIBBLE II	£79.00
COS005	ANALYSE	£79.00
COS006	TEXTCRAFT	£49.00
COS007	MCC PASCAL	£75.00
COS008	CAMBRIDGE LISP	£119.00
COS009	METACOMCO TOOKLIT	£33.00
COS010	METACOMCO SHELL	£42.00
COS011	ASSEMBLER	£59.00
COS012	ABSOFT A/C FORTRAN	£239.00
COS013	ABSOFT A/C BASIC	£139.00
COS014	DIGVIEW II	£189.00
COS015	AEGIS ANIMATOR/IMAGES	£99.00
COS016	AEGIS IMAGES	£39.95
COS017	AEGIS IMPACT	£79.95
COS018	AEGIS DRAW PLUS	£249.95
COS019	AEGIS ART PACK I	£39.00
COS020	AEGIS SONIX	£69.00
COS021	AEGIS ART PACK II	TBA
COS022	DYNAMIC CAD VERSION 2.3	£429.00
COS023	PCLO JUNIOR	£59.00
COS024	PCLO FULL	£169.00

All prices are exclusive of VAT.

LARGEST UK AMIGA SOFTWARE CENTRE

COS025	PCLO PLUS	£429.00
COS026	ZUMA FONTS VOLUMES 1,2,3	£33.00
COS027	DELUX PAINT II LATEST VERSION	£118.00
COS028	DELUX PRINT	£79.00
COS029	DELUX VIDEO	£99.00
COS030	GRAPHICRAFT	£49.00
COS031	PAGESETTER	£129.00
COS032	LASERSCRIPT	£37.00
COS033	GOLDSPELL	£37.00

AMIGA

AMIGA GAMES

COS001	SUBLOGIC FLIGHT SIMULATOR II	£49.00
COS002	DEFENDER OF THE CROWN	£29.00
COS003	SINBAD	£39.00
COS004	FAERY TALE ADVENTURE	£39.00

*More than 100 other titles available. Please telephone **(0480) 50595** for prices.*

PRINTERS

PRT001	EPSON LX86 PRINTER	£199.00
PRT002	EPSON FX800	£399.00
PRT003	EPSON FX1000	£499.00
PRT004	EPSON LQ800 PRINTER	£499.00
PRT0041	EPSON LQ800 TRACTOR FEED	£44.00
PRT0042	EPSON L1800 SHEET FEED	£141.90
PRT005	EPSON LQ1000 PRINTER	£599.00
PRT008	MP 165 PRINTER	£199.00
PRT011	JUKI 6100 RPINTER	£299.00
PRT013	JUKI 6300 PRINTER	£799.00
PRT014	EPSON LX TRACTOR FEED	£22.00
PRT015	EPSON FX85 TRACTOR FEED	£32.00
PRT016	EPSON LX SHEET FEEDER	£59.95
PRT017	EPSON FX85 SHEET FEED	£129.00
PRT018	JUKI 6100, 6200, 6300 SHEET FEED	£199.00
PRT019	STAR NL10	£219.00
PRT020	CANON LBP SA1 LASER PRINTER	£1950.00
PRT021	PANASONIC KX-P1081	£147.00
PRT022	FX80 SERIAL CARD	£35.00
PRT023	EPSON LQ1000 TRACTOR FEED	£50.00
PRT024	EPSON LQ1000 CUT SHEET FEEDER	£130.00

PLEASE USE OUR CODES WHEN ORDERING

PRINTERS

PRT025	EPSON FX80 + SHEET FEED	£129.95
PRT026	FX1000 SHEET FEEDER	£169.00
PRT027	CANON A55 DOT MATRIX PRINTER	£429.00
PRT028	TAXAN KP815	£339.00
PRT029	LQ800 TRACTOR FEED	£44.00
PRT030	SQ2500 PRINTER EPSON	£1345.00
PRT031	SQ2500 D/BIN SHEET FEED	£335.00
PRT032	SQ2500 TRACTOR FEED	£88.00
PRT033	LQ1000 TRACTOR FEED	£55.00
PRT034	SQ2500 INK JET	£24.99
BPRT01	BROTHER HR20	£339.00
BPRT011	HR20 TRACTOR FEED	£99.00
BPRT012	HR20 CUT SHEET FEED	£199.00
BPRT02	BROTHER HR40	£899.00
BPRT028	BROTHER 1009 TRACTOR FEED	£28.00
BPRT03	SHEET FEED HR20	£199.00
BPRT08	HR25/35 CUT SHEET FEED	£199.00
BPRT10	DASIYWHEELS	£16.95
BPRT20	BROTHER M1109	£179.00
BPRT21	BROTHER M1109/PRES	£199.00
BPRT22	BROTHER M1409	£299.00
BPRT23	M1409 CUT SHEET FEED	£99.00
BPRT24	M1409/M1509/M1709 NLQ FONT	£79.00
BPRT25	M1409/M1509/M1709 NLQ FONT 16K	£79.00
BPRT26	BROTHER M1509	£399.00
BPRT27	BROTHER M1709	£479.00
BPRT271	BROTHER M1709 CUT SHEET FEED	£164.00
BPRT28	BROTHER 2024L PARALLEL	£599.00
BPRT29	BROTHER 2024 SERIAL	£399.00
BPRT30	CUT SHEET FEED	£169.00
BPRT31	BROTHER M4018	£1299.00
BPRT32	A/C ADAPTOR FOR BROTHER	£12.00

We accept Barclaycard/Visa/Access/Mastercard/postal orders or cheques. We accept government and educational orders. Leasing available, please apply for written details.

You may purchase any of the items listed, by cheque made payable to **PEARTREE COMPUTERS LTD.**

All you have to do is to list your requirements on a sheet of paper, post it to us quoting ref, and we will despatch your goods within 24 hours, whenever possible, stock permitting.

Please add the following amounts for postage and packing:

Items below **£10.00**	add **£1.50**
Items below **£50.00**	add **£2.50**
Items below **£100.00**	add **£3.50**
Items over **£100.00**	add **£10.00**

Independent courier for items over £100.00

All prices exclude VAT.

Access/Barclaycard holders—call us on our new special line: **(0480) 50595**

Prices are correct at time of going to press. Peartree Computers reserves the right to change prices without prior notice.

PUTTING · THE · FUTURE · INTO · YOUR · HANDS

START Systems

YOUR NO. 1 AUTHORISED COMMODORE AMIGA MAIL-ORDER DEALER

AMIGA A500

★ SPECIAL OFFER ★
DEFENDER OF THE CROWN & KARATE KID II

All Amiga A500 Packs include 10 P/D Disks, 10 DS Blank Disks, Deluxe Paint, Defender of the Crown, K Kid II, Modulator, Amiga Basic, Mouse Pad, Dust Cover, Mouse Bag, Amiga Book, and Manuals.

A500 Pack (As Above)	£529.95
A500 Pack + NEC 880K Disk Drive	£654.95
A500 Pack + PHILIPS CM8833 Colour Monitor	£799.95
A500 Pack + A1081 Colour Monitor	£819.95
A500 Pack + NEC 880K Disk Drive + PHILIPS CM8833 Monitor	£934.95
A500 Pack + NEC 880K Disk Drive + A1081	£959.95
A500 Plus (Same as A500 Pack + Extra 512K Ram)	£619.95
A500 Plus + NEC 880K Disk Drive	£744.95
A500 Plus + PHILIPS CM8833 Colour Monitor	£899.95
A500 Plus + NEC 880K Disk Drive + A1081	£919.95
A500 Plus + NEC 880K Disk Drive + PHILIPS CM833 Monitor	£1024.95
A500 Plus + NEC 880K Disk Drive + A1081 Monitor	£1059.95

★ Hurry While Stocks Last ★

AMIGA PERIPHERALS

PHILIPS CM8833 Colour Monitor + Amiga Lead	£289.95
AMIGA A1081 Monitor	£309.95
NEC 880K Disk Drive	£129.95
A1050 512K Ram Board	£99.95
AMIGA A1000 1Mb Memory Board	Phone Now
SOUNDSCAPE Sound Digitizer	£109.95
DIGIVIEW 2 Video Digitizer (A1000 Version)	£199.95
DIGIVIEW 2 Video Digitizer (A500 Version)	Coming Soon
PANASONIC B/W Video Camera With Lens	£269.95
GENLOCK	£399.95
CHERRY Tablet Pack + Cables & Driver	£549.95
MEGABOARD 2Mb Ram Expansion	£449.95
COMPEX AX2000 2Mb Ram Expansion	£529.95
EASY 1 Graphic Tablet	£399.95
PERFECT SOUND	£69.95
SOUNDSCAPE Midi Interface	£49.95
ECE Midi Interface	£48.95
SUPRA 20Mb Hard Drive	£699.95
SUPRA 60Mb Hard Drive	£1299.95
XEROX 4020 Colour Ink-Jet Printer (with cable)	£1099.95
XEROX 4020 Printer with Extras Pack	£1199.95
XEROX Extra Pack (Inc Mix inks, Paper roll, Paper holder, etc)	£109.95

AMIGA SOFTWARE

Modula 2	£79.95
Modula 2 (Developer System)	£129.95
MMC Cambridge Lisp	£109.95
MMC Pascal	£74.95
MMC Assembler	£54.95
True Basic	£129.95
True Basic Runtime	£129.95
True Basic Complete	£189.95
AC Basic Compiler	£159.95
Superbase Personal	£89.95
VIP Professional (UK Version)	£109.95
Logistix	£149.95
Scribble 2	£84.95
Textcraft	£59.95
Graphicraft	£49.95
Aegis Animator/Images	£94.95
Aegis Draw Plus	£239.95
Aegis Images	£39.95
Aegis Impact	£84.95
Aegis Sonix	£69.95
Aegis Art Pack 1	£37.95
Aegis Art Pack 2	Phone Now
Pagesetter	£129.95
SOUNDSCAPE Pro Mid Studio	£159.95
Faery Tale	£39.95
SDI	£23.50
Defender of the Crown	£23.50
Sinbad	£23.50
Starglider	£19.50
Flight Simulator II (A500 Version)	Coming Soon
Flight Simulator II (A1000 Version)	£37.95
Flight Simulator II Plus (+ extra disk) (A1000 Version)	£54.95
Guild of Thieves	£19.50
The Pawn	£19.50
Silent Service	£23.50
Skyfox	£19.50
Arena	£23.50
Barbarian	£23.50
Bratacus	£29.95
Chessmaster 2000	£34.95
Music Studio	£29.95
Deluxe Paint II	£109.95
10 Blank DS DD Disks	13.95

AMIGA MAIL ORDER

If you can't see the System, Peripheral or software you want, then ring now for our new low prices.
For any order just send a cheque, bankers draft or postal order made payable to START SYSTEMS to the address below and we will despatch your order to you within 14 days, Subject to Availability.

Send to:
START SYSTEMS
209 Telegraph Road, Deal, Kent CT14 9DR.

For all enquiries and the latest prices phone: (0304) 369364
All prices include VAT & Securicor/Postal Charges.
These prices supersede all previous advertised prices.
All prices are correct at the time of going to press.

YORK ELECTRONIC RESEARCH

Commodore 64/Plus 4 Products

6502 ASSEMBLER 64/Plus 4* ..... tape/disk* £12.99

A sophisticated two-pass symbolic assembler and text editor which supports tape and disk filing. The assembler, the editor, and your source and object code may all be resident in memory simultaneously, facilitating rapid and interactive code development. Recently extended manual with many examples.

Z80 EMULATOR/CROSS-ASSEMBLER 64 only ..... disk £12.99

A unique integrated Z80 development package. The emulator compiles Z80 source code into optimised 6502 which runs on the 64 at approximately one sixth the speed of a 2MHz Z80. It supports all but 20 of the 688 Z80 operations, calls to 6502 routines, and interrupts. The cross assembler generates hex or binary Z80 object files. The disk also contains a powerful editor and several example programs.

BI-DIRECTIONAL RS232 INTERFACE WITH COMMUNICATIONS SOFTWARE 64 +4* .. tape/disk* £29.99

The 64 KERNAL supports RS232 via the user port. This interface provides the necessary voltage conversion for direct connection to RS232 printers, modems and other devices. It is compatible with Easyscript and Superscript. The unit is supplied with 1 metre of cable (add 75p per extra metre*) terminated in a 25-way male (or female*) D-connector. The software includes a terminal emulator which supports split baud rates and auto-dial, file transfer utilities, a menu driven port initialisation program, and a transparent printer driver which vectors the KERNAL to redirect device 4 printer output to the RS232 port.

*Please specify.

Prices are fully inclusive. Overseas orders add £2.50
Allow up to 1 week for delivery
Manuals available separately £1.00

YORK ELECTRONIC RESEARCH
The Fishergate Centre, 4 Fishergate, York YO1 4AB
Telephone: (0904) 610722

THE MPS803 PRINTKIT IV

AT LAST
Top quality performance from your MPS803 Printer. Simply fit 'PRINTKIT IV' directly to your MPS803 printer and you will get:

*TRUE DESCENDERS *A BOLD OPTION
*UNDERLINING *ITALICS

And up to 50% speed increase!

All facilities are fully CBM compatible "'PRINTKIT IV' is a very impressive upgrade kit" CCI Nov '87.
"Will give your MPS803 a new lease of life" YC Dec '87.
Send just £30.00 to join the hundreds of satisfied customers.

NEW! Coming soon... Connect your MPS803 DIRECTLY to your Amiga, ST, PC,... Full information when you order 'PRINTKIT IV'.

We also supply: Ribbons, Tractor feeds, Serial leads etc. Call for details.

AVON PRINTER TECHNOLOGY

SWINDON HOUSE; 4 HOWARD ROAD; SOUTHVILLE; BRISTOL BS3 1QH. Telephone BRISTOL (0272) 667167
(enquiries from non-UK Distributors welcome)* add £2.00 P&P for overseas orders
7 days delivery. Full guarantee.

CBM's EUROBOSS
Christian Andersen

To the Commodore computer owner, the apparently ceaseless management changes at CBM that the Press report must often seem incomprehensible and most disturbing. For a company that has sold more home computers than any other in the world to make news of this kind so often is bound to appear strange. Yet CBM is in an industry where change itself accelerates constantly any company that does not run at least to equal the speed of the industry will soon find itself out of business. And the extreme demands that this everchanging situation makes are one of the causes for people and policy switches, often with surprising rapidity.

Sometimes, though, even the Press —supposedly well-informed — find the changes confusing and we have to confess that CCI fell into error last month when we stated that Commodore UK was run by CBM Germany. "Wrong!" an irate senior Commodore spokesman protested. "Commodore UK is part of Commodore's European network that just happens to be run from Frankfurt in Germany. But it it entirely independent of Commodore Germany!"

To sort out this confusing situation and discover something of how CBM's Europen organisation works, CCI interviewed its operational boss, Christian Andersen, CBM's European Marketing Director.

Andersen, as his name suggests comes from Scandinavia. This is no coincidence for in the Scandinavian countries, micro-computers are dominated by Commodore. Andersen is tough, straight-talkig and very frank about Commodore's problems and performance.

Five Years

He joined CBM in 19;82. He has, in those years, seen dramatic changes both in the computer market and in Commodore itself. He is a strong manager, a marketeer, a top level international businessman. He could be selling anything. It is only incidental that CBM's products are computers. He admits, "I never use computers . . . If I need information, I shout for it . . ."

Yet today, the group of European countries for which he is responsible in Europe is CBM's powerhouse. They are selling more computers now than CBM in the USA. Coming from Commodore's Danish company, he took up his job, officially, in April this year. He is, though, still proud of what was achieved in Denmark.

"The Danish subsidiary is the most successful country in relative terms! They're very good people . . . very well organised! Norway and Sweden, too," he declares, "have clean, good operations!" The big push came in the boom years of 1983/4. "We had 200-300% growth!"

Even though the difficult years that followed when the bottom seemed to fal out of the home computer market and CBM hit very rough water, Commodore in Scandinavia continued to progress. Now all the countries that Andersen controls are gaining speed. "Developments in Spain are moving in our favour. France? There were 16 different computers . . . Some of them I'd never even seen before . . ." But now from having a poorly-run independent distributor set-up, CBM has its own fast-growing subsidiary company. He speaks of the UK, which has also had its well-publicised problems.

"The UK is now turning very fully towards Commodore . . . You can sense the change of attitude . . . In Commodore, we can be very proud of our commitment to the UK. We are showing continuous strength . . . There is a definite turnaround in the marketplace . . . We have very strong belief that the UK is goind a good job . . . That is why we're investig money . . . We're giving them big resources."

This is a reference to CBM's recent splashing out of £1.25 million to sponsore 1st Division foot club Chelsea, and also of the larger sums of money that CBM is spending on advertising in the UK.

"Of course," Andersen goes on a shade ominously, "that puts pressure on the UK, because we want the money back . . ."

So far Andersen has hardly mentioned CBM's competitors. He is very well aware though that success will ultimately depend on CBM having the right products at the right price.

"The Amiga will surprise a lot of people . . ." But CBM will not attempt to compete in price with cheaper and lesser computers. Yes, he is aware that the Amiga 500 is being sold in his native Denmark at well under the equivalent of £400. That was because, he says, some chain stores wer using it as a "loss leader" to get young people between 13 and 18 into the stores. And, in any case CBM UK had matched the price in the UK with its special coupon offer.

Don't forget the 64

"But nobody should forget the 64! It is No. 1 seller in nearly all products . . . Yet, it will turn into a games machine . . . It always was but now there are thousands and thousands of very good examples . . . I don't see *any* competition!"

As for the Amiga 2000 — "It is the best personal computer in the 16 bit world! . . . But we know it will take some time to go through the dealer to convince the end user . . . Maybe six months and thousands and thousands of hours of training . . ."

Andersen is now number 2 to Harald Speyer, European General Manager. Andersen is responsible for sales, marketing, technical support and logistics. His optimism about CBM's future is forcefully expressed. "There is a certain sparkle in Commodore now . . . You can feel the flame . . ." He has clearly enjoyed his Commodore career — the bad times and the good. He smiles "It's a very, very valuable experience."

Dear Technical Editor.... (THIS MONTH – JACK COHEN)

Dear Technical Editor
I have been using a Commodore 64 with the C2N data recorder for about three years, and on rare occasions the following fault occurs. When LOADing a program from tape the screen remains blank until the end of the tape. I then find that the tape has been wiped clean of all data. I am quite certain that the record button has not been pressed inadvertently at the time, neither is there any strong magnetic field in the vicinity. Both the computer and the recorder appear to be in perfect working order before and after the event.

Is there any part of the program which is capable of switching on the erase head by mistake? Has anyone else noticed this defect?
D.M. Bellis, Lancs.

This is probably due to a storage problem.

Avoid (1) storing tapes near a phone. The ringing tone has been known to erase tapes due to a strong magnetic field which drives the bell.

(2) or near power transformers like those on the 64 supply lead.

The erase head cannot be switched on by mistake because it is only when the keys are depressed that the heads come forward physically into position with the tape and the comparatively weak magnetic field has any effect. Only strong magnetic fields are capable of remote erasure.

Dear Technical Editor
I wrote about a hundred or more long programs for the VIC20 and have now got a 64.

Only a few of the VIC20 programs load on the C64 most of them just give "out a memory error". Although I can't find any common difference between those that load and those that don't.

I expect to correct pokes and screen once I get them to load and these that do then run OK.

Any suggestions please? I can't be the only one with lots of VIC20 programs who now has a 64.
F.J. Wetherell, Kent

The start of basic addresses for VIC20 and 64 are:—

VIC20 (unexpanded)	*$1000*
VIC20 3.5K expansion	*$0400*
VIC20 8K and over	*$1200*
C64	*$0800*

There are timing differences between the VIC20 tape and 64 tape which make direct loading of VIC20 programs into the 64 unreliable as you have found. One solution (if you either have a PET or a friend who does) is to load the VIC programs into the PET, after saving them using the 3.5K expansion if possible, and saving them again to tape. The reason for using the 3.5K expansion is that $0400 is the same address as the PET for the start of basic. If your programs are too large for the 3.5K expansion then the load address will be $1200 (see list above). Then save the programs from the monitor as S "0:VICname",01,1200,x where x= address of end of program +1.

If you have a friend with a disk drive (serial) then direct transfer is possible.

Dear Technical Editor
I was most interested in the article on Forth language for Commodore machines. Could you tell me if 'PLUS4ORTH' would run on a C16+ 64K with 1551 disk drive and if so when will 'PLUS4ORTH' be available?

I am impressed with the improved coverage of CCI in recent months — away from games reviews and toward the more 'serious' aspects as in the above article, keep up the good work.
M.J. Last, Suffolk
P.S. Could you tell me which of the 'Anatomy' books would be relevant to the 1551.

If you are using the Micro Component Trading Co 64K RAM PACK for the C16 then I understand that it is totally software compatible with both the C16 and the PLUS4 so that your PLUS-4ORTH will work correctly. PLUS-4ORTH will be available in the late Autumn (by the time you read this). If any CCI readers are interested then please write to Richard Hunt c/o CCI. Anatomy of the 1541 would be relevant for the 1551, the major difference is that of speed between the serial 1541 and the faster parallel 1551.

Dear Technical Editor
As a fairly recent newcomer to computing who owns a C64 I find your monthly column in CCI very interesting. It inspired me to buy your book Programming the 64.

At 33 games hold only limited appeal to me and having previously owned a VIC20, and now access to a 8032 PET, 8050 disk drive and 4022 printer I now have a hobby. Your article on converting programs (in the May CCI) interested me as a project I could carry out and enjoy.

I find the sections of your book covering this topic interesting and very useful but have come across one or two snags.

Havng old VIC20 tapes I wish to convert but no disk drive I find myself unable to convert these via the PET to the 64. The PET it seems to me will not respond to either:—
POKE 41,8:POKE 2048,0:NEW (from May 1987 CCI) or POKE 44,4:POKE 1024,0:NEW (from page 595 of your book), where VIC20 tapes are to be loaded. Do you know of any suitable numbers to let the PET convert my programs, until I can obtain a disk drive, and for tape programs.

Using the above numbers the PET searches and finds the program name (on the 64 the name is found in graphics then READY is displayed) loads it and displays READY. But it will not list or run the program. I think the 64 would accept VIC20 tapes via the PET if only I could get the PET to load them, the pet seems more VIC20 compatible than 64 compatible.

Note: I use the 64 data recorder on the PET as you advise in your book. Mine is a replacement Binatone Data Recorder designed for use with VIC20 and 64 computers.

I have many (BASIC) PET programs running on the 64 and some 64 programs run OK on the PET. I fnd that the POKES from CCI May 1987 allow successful 64 into PET while the ones from page 595 don't, is the book correct? Why do these numbers differ or what could be wrong.

When I have the cash for a disk drive VIC20 to 64 should be much easier, but my next project will be can I use PET disks directly in the 64 disc drive. Can backing up or some other method help.

Would it be worth buying a 64 to ieee interface to allow me to directly couple the 64 to the 8050 and 4022. Will my Final Cartridge II be of help to me in any other way than (I hope) taking care of BASIC 4 to BASIC 2 conversion.

Finally having got my project out of my system what would you advise as a good and correct way for someone just above raw beginner to learn computing correctly.

Your book and column have helped open up my hobby, keep up the good work.
Mr. A. Barnes, Co. Durham

You have misread Rae's answer in the May '87 issue of CCI. He gave suitable pokes for programs FROM a 64 loaded into the PET in which case POKE 41,8:POKE 2048:NEW is correct. Suitable pokes for the programs FROM VIC20 loaded into a PET are:—
unexpanded VIC to PET
POKE 41,16:POKE 4096,0:NEW
3.5K expansion
NO POKE NECESSARY — same load address as PET
8K and over
POKE 41,18:POKE 4608,0:NEW
POKE 44,4:POKE1024,0:NEW is not meant to be entered on the PET (unlike the above POKES). You should enter it on the 64 BEFORE loading the 64 program and then save to tape. Then, on the PET POKE 41,8:POKE 2048:NEW then load the 64 program from tape. You can use PET disks with the 64 using an appropriate interface such as those available from BRAINBOX.

Assuming that you want to become proficient in the use of your computer and peripherals, there are three different ways.

Dear Technical Editor.... Continued.....

1. Get appropriate book specific to your computer on a) learning basic, b) learning machine code. There are numerous books for the 64 and I suggest that you look at them first in your computer bookshop for the books that are written for your level.

2. Join a local computer club and mix with enthusiasts (such as ICPUG members).

3. Join a local college course on computing (as near as possible to your 65XX processor — unless you require a general course for exam or other purposes).

Dear Technical Editor

I recently bought 'Mini Office' after reading the good reviews in CCI. However the program is incompatible with my printer even though it is an Epson. The problem is that the software does not send line feeds to the printer. The manual states "Set the switches inside Epson and compatible printers to provide auto line feed". My printer being an Epson MX70 does not have any such dil switch options, this being no problem with my other software which provides sufficient options to line feed correctly. I have tried all the software options such as 'Line spacing' and 'spacing of blank lines', but these have no effect, everything is printed out on the same line.

This omission means that this potentially useful software is virtually useless to me and a waste of £19.95. Can you help me with this problem.

J.A. Tulley, Cheshire

The MX70 was built as a no frills printer alternative to MX80 — meaning essentials like dip switches left. However and line feeds are programmable as you have found. Look at your printer manual and see a) if line feeds are turned on, until reset, by programming or b) if the line feeds have to be sent with each line of the text. If a) then send the appropriate control code before loading Mini-Office and as long as Mini-Office does not react the printer should work. If b) then there is nothing to be done in a practical way without a hardware modification to the printer.

Dear Technical Editor

I am a subscriber to your magazine, and have been following the progress of the Commodore Amiga in the UK since the launch of the machine in this country over a year ago. The release of Wordperfect has to me (and possibly to many others waiting for a top quality word-processor) been the deciding factor, and I hope to purchase an Amiga in October or thereabouts. I have still not decided whether to buy the A500 or A2000, as price alone will not be a deciding factor.

However, to cut costs initially at least, I am wondering whether the Amiga can be connected to either of two televisions which I have. The televisions concerned are both Ferguson models, and are both designed for RGB computer input. For ease of reference, I will set out the relevant details below:

1. Thorn EMI Ferguson 51A5 FST Stereo Teletext with TA164 Peritel connector.

2. Thorn EMI Ferguson MC01 Colour Monitor Television with 7 pin RGB input socket and 5 pin Composite Video socket. The second television is a 14 inch model, which I have used with a BBC Model B using the appropriate lead. The resulting display was indistinguishable to my eyes from that obtained from a dedicated monitor.

I realise that my query is perhaps unusual, but I would appreciate your taking some time to ascertain the position, even if it means my having to wait for some time for an answer.

Iain Gillies, Scotland

The type of RGB required for the Amiga mut be RGB (A) with at least one sync. Look in your TV manuals to check if this kind is available to you or ask the manufacturers for their technical information sheets. If you have the correct RGB (A) then the cable to connect the Amiga with your TV will have a scart connector (or Europlug) at the monitor end.

Dear Technical Editor

I want to connect my Commodore 128 RGB interface to my newly acquired television/RGB monitor (Hitachi CPT 1646). Enclosed are descriptions of each interface. I have tried to connect them myself but with little success. If you cannot help me, could you tell me of someone or some company that may be able to.

Printers!?! — So many on the market! Please could you recommend to me some printers that you (or your colleagues) have had pleasure in using; up to about the £200 price range.

Peter Slatter, Hants.

To use the 128 with a monitor requires RGB (I). Again check with your TV manual or technical information sheets.

I suggest the Star NL10 which can be supplied with a built-in CBM interface and is fully CBM compatible, but more importantly, STAR are a well-established concern who have been in business for over 35 years, specialising in electronic typewriters and printers.

Dear Technical Editor

A Mr Colin Stephens of Kingston upon Thames asked if he could read MS-DOS with his C-128.

Recently a program has come out that will allow this. I found it somewhat by accident. Enclosed is a review of this program, as well as where to get it. Hopefully, it will be helpful to Mr. Stephens.

You may pass the enclosed (along with this letter) to Mr Stephens, as perhaps he may have other questions, should he wish to write.

I would suggest that Mr Stephens write the SOGWAP company, giving the name of the word processor whose text-files he wishes to transfer, (it may be known to us here...) and the version of DOS he is running on his IBM, just to be sure. Also, ask them how much it will cost to mail it overseas, etc.

I transfer text files from MS-DOS at work to this Tandy Radio Shack Model III at home by using a file-transfer program. It works great.

I am considering purchasing an Amiga 500.

Dale Stupfel, California, USA

Dale writes to recommend 'The Big Blue Reader' to Colin Stephens and others. The BBR programs a 1571 disk drive to read and translate MS-DOS files (but not RUN them). BBR will let you transfer WP files to/from IBM PC (or clone) from/to 128 system. (SOGWAP Software, 611 Boccaccio Avenue, Venice CA 90291 USA $29.95 phone (213)/822-1138).

Dear Technical Editor

I would like some help in regard to a listing given in your August edition: "True Descenders" (F. Randall). I have typed it into my 64 but it does not appear to work quite as it should. It prints an Easyscript file on my MPS803, except that it leaves out all the descenders. There are no error messages when I run the program and I have checked my version of the listing a number of times. I am probably missing some obvious error, but in case other have had this problem I have decided to make this query. Also, line 290 looks a bit odd: shouldn't 310 be 290? I enclose a copy of the program that I have typed in; perhaps someone could spot my error. In the event of this program being referred to in your October issue, please ignore this letter.

Maurice Neligan, Surrey

The original listing of line 290 was incorrect and should finish 'then 290' as in your listing.
However you have entered line 1080 wrongly.

In fact, line 1090 appears twice in your listing once as line 1080 and once correctly as line 1090.

JACK COHEN IS A LEADING MEMBER OF ICPUG THE INDEPENDENT COMMODORE USER GROUP.

HEY AMIGO...

NOW YOU DON'T HAVE TO BE A BANK ROBBING BANDIT TO AFFORD AN AMIGA!

AMIGA A500

1 Meg. Disk Drive 4096 Colours Stereo Sound
Built-In Speech Synthesis Multi-Tasking

- FREE - 10 Public Domain Disks Worth £39.95
- FREE - Amiga Handbook Worth £7.95
- FREE - Deluxe Paint Worth £24.95
- FREE - Mouse Mat Worth £7.55
- FREE - TV Modulator Worth £24.95
- FREE - Karate Kid II Worth £24.95
- FREE - Amiga Tutorial Disk

£499
ONLY FROM HARWOODS
(Save Over £130)

New...

AMIGA EXTERNAL DISK DRIVES

COMMODORE 1 Meg. £249.95 - SAVE OVER £43
CUMANA 1 Meg. £139.95 - SAVE OVER £6
BUY A DRIVE NOW & GET 5-FREE Blank Disks

AMIGA 2000

With extra 1 Meg. Internal Drive FREE
(phone for details)

AMIGA SOFTWARE

ELECTRONIC ARTS AUTHORISED DEALER and many more
Always in Stock - Phone Now

AMIGA PRINTERS

CITIZEN 120D
Low Cost NLQ Dot Matrix Printer
2 Year Warranty
C64 and Amiga Compatible
£199 Save Over £95

SEIKOSHA SL80 AI
24 Pin Dot Matrix
Perfect Letter Quality
Single Sheet Paper Loader
16K Buffer
Ideal for W.P. and D.T.P.
£399 Save Up To £32

SEIKOSHA MP1300 AI
Extremely Fast 300 CPS
Dot Matrix Printer & NLQ
Single Sheet Paper Loader
7 Colour Kit Available
10K Buffer
RS232 Interface as Standard
£499 Save Up To £35

All printers are:
Supplied With FREE CONNECTOR CABLE
(please specify computer)
Friction AND Tractor Fed
Epson/IBM Compatible

HARWOODS "DUALPACK" DEAL

Amiga A500 AND Monitor
And FREEBIES
ONLY **£785**
(Save Up To £249!)

Amiga/Philips Monitor

14" Colour - Medium Resolution
Plugs Straight In (To Amiga And Most Other Computers)
Tilting Facility - Stand Available
Green Screen Switch
Stereo Sound (Philips)
ONLY **£299** Save Up To £102
NOW WITH FREE - CONNECTOR LEAD
(To Fit Most Computers...
Please State Type When Ordering
eg. ACORN, ATARI, COMMODORE, IBM, MSX, SINCLAIR etc. etc.)

ORDERING...
FREE Postage
Add £4 NEXT DAY COURIER
24 HR Credit Card Order Line
Send PO's or Cheques

GORDON HARWOOD
HARWOOD
HARWOOD
HARWOOD

Computers
DEPT CCI
69 - 71 High Street Alfreton Derbys TEL 0773-836781

12-36 Month H.P. TERMS AVAILABLE
All Prices Include VAT Postage, And Are Correct At Time of Going To Press E&OE Offers Subject to Availability

Official Commodore Business Centre

TRILOGIC

A Touch of Magic

the expert WITH ESM

NEW! LOW PRICE

SPECIAL PRICE NOW ONLY £29.99 (inc VAT)

Complete with V3.1 Software FREE POST

NOW INCLUDING THE LATEST V3.1 SOFTWARE UPGRADE!

IT CAN NOW DO ALL THIS!

1 PROGRAM PARALYSER	Stops even the most HEAVILY PROTECTED PROGRAMS AND DEFEATS ALL "anti-freeze" techniques
2 BACK-UP GENERATOR	TAPE/DISK . DISK/TAPE . DISK/DISK. TAPE/TAPE. Transfers memory resident programs whether loaded from disk or tape.
3 SPRITE EXTRACTOR*	Displays the sprites for you to edit, and then save, or RESTART the game using your customised ones. You can view the animation too.
4 SPRITE IMMORTALISER	This feature disables the sprite collision detection – prolongs active sprites ... these features not yet present on tape version.
5 HIRES SCREEN GRABBER	Saves a HIRES screen and then alter it using one of several utilities widely available.
6 CHEAT MACHINE	The easy way to enter cheats and "pokes". Gain extra lives, or infinite energy, etc., etc.
7 CODE INTERROGATOR	A truly professional machine-code monitor, operating over all 64K Ram, with disassemble, compare,, transfer, fill, assemble, hunt, search, mofidy, jump, number conversion, etc. PLUS, B command lists BASIC & R restarts a program.
8 AND IT'S ... THE ONLY PROGRAMMABLE CARTRIDGE	You'll NEVER need to return the cartridge for upgrading - simply send for the latest software - only £2.00 exchange disk or tape. We calculate that you could buy and EXPERT and several upgrages for what it will cost you to upgrade rival products.
9 PRINTER DUMP	Prints out exactly as shown on screen — high & low res. Simply amazing — it works with both serial or centronics printers.
10 EXPERT EXPRESS	Use your EXPERT as a disk turbo cartridge to speed up disk loading.
11 ICON DRIVEN	Operating system improved and even more powerful machine code monitor. Help key. Dual screen facility.

And we haven't forgotten advanced users .....
There is now a 2 Pass Assembler
& Label Generating Disassembler included.

NEW

THE EXPERT UTILITY DISK

- Specific multi-part back-up utilities
- Additional operating systems
- Fast file copier etc. etc.
- Monitor with print command.

ONLY £5.95

ALSO

- SAVES PROGRAMS IN ONE FILE
- COMPACTS PROGRAMS
- RELOADS & DECOMPACTS PROGRAMS WITHIN 35 SECS.
- EXPERT NOT NEEDED FOR RELOADING
- COMPATIBLE WITH ALL CBM 64s & 128 (64MODE)

UPGRADE YOUR EXISTING EXPERT CARTRIDGE

OUR POLICY OF EASY UPGRADABILITY BENEFITS EXISTING USERS AGAIN .

FOR V3.1 SOFTWARE SEND **ONLY £3.50**

STATING WHETHER TAPE OR DISK REQUIRED.,

ALL PRICES INCLUDE VAT AND P&P.

· FAST MAIL ORDER SERVICE · PROMPT DESPATCH
· ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK GUARANTEE ON ALL BACK-UP DEVICES.
PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC BY POSTAL ORDER OR ACCESS. ADD £1 EXTRA FOR EXPORT ORDERS, PAYMENT IN STERLING ONLY PLEASE.

EXPRESS DELIVERY ADD £1.95

Write or 'phone TEL: (0274) 691115.
24 HOUR ANSWER PHONE

Trilogic Dept. AA, Unit 1
253B New Works Road
Low Moor, Bradford, BD12 0QP

THE EXPERT AVAILABLE IN EUROPE FROM CAT & KORSH ROTTERDAM 010 · 311 · 04507696

this Christmas time!!!

FREE UTILITY DISK!
WORTH £5.95
IF YOU BUY A NEW EXPERT AND RAMBOX TOGETHER!

THE NEW V3.1 EXPERT OPERATING SYSTEMS ARE DESIGNED TO USE THESE RAM PACKS TO MAKE THE EXPERT EVEN QUICKER & MORE VERSATILE TO USE.

- 32K OR 64K CAPACITY
- BATTERY BACK-UP BUILT-IN
- CONNECTS TO USER PORT (PAT. APPLIED FOR)
- ADD EXTRA PACKS USING A USER PORT EXPANDER

32k ONLY **£39.95**

The Perfect Partner for Your Expert. (with V3.1)

THE NEW

64k ONLY **£49.95**

RAMBOX EXPERT RAM PACK

The EXPERT RAM PACKS are designed for use with the EXPERT cartridge and can be used to store several operating systems thus avoiding the need to load and reprogram disk or tape. They can also be used as general purpose memory packs ('rams disks') using software presently under development so that for example, you could save the current program in a battery back-up version ready for instant use. Another use would be to 'switch' from one program to another at the press of a key.

These ram packs, when combined with the EXPERT make the ideal software developers tool; further developments on this theme will be announced soon.

With these ram packs, TRILOGIC have given programmers an exciting opportunity to develop commercial software which is presently limited by the internal memory size & slow CMB disk drives.

AMIGA PRINT LINK

Don't retire your 64 Serial printer e.g. MPS 803. Trilogic Printlink links your Amiga and old serial printer and uses your 64 as an intelligent printer buffer/interface.

ONLY £29.95

Price includes leads and cartridge Software Package.

NEW LOW COST LEADS FROM TRILOGIC

AL 1 For TV/Monitors with Euro-socket e.g. Sony **ONLY £12.95**

AL 2 For Ferguson with DIN Socket **ONLY £12.99**

AL 3 For CBM 1901 RGBI/16 COLOURS **ONLY £14.99**

AL 4 For Granada, Hitachi 7 pin DIN. **ONLY £12.95**

MAKE YOUR TV MONITOR JUST AS GOOD AS THE AMIGA!

STOP PRESS!

LEADS ALSO AVAILABLE FOR ATARI!

CBM 1901 MONITOR 1901 RGB CONVERSION

* FULLY AMIGA COMPATIBLE — ALL 4096 COLOURS.
* AUDIO SOUND LEAD INCLUDED.
* EXISTING INPUTS RETAINED — INCREASES THE VERSATILITY OF YOUR 1901.

Our conversion makes your 1901 a highly versatile medium res. Colour monitor which can be used with practically all computers, videos etc. – you should never have to buy another colour monitor.

Conversion costs **only £29.95**

inc. carriage add £12.00 for next day delivery.
IMPORTANT Please send the monitor by insured post or DATAPOST.
For next day collection/delivery service add £24.00.

TRILOGIC

FAST ORDER FORM

All prices include VAT and P & P.

Please forward the following: (Tick Applicable Box) C.C.I.

☐ EXPERT CARTRIDGE with V3.1	£29.99
☐ UTILITY DISK	£5.95
☐ V.3.1. SOFTWARE	£3.50
☐ RAMBO X 32k	£39.95
☐ RAMBO X 64k	£49.95
☐ AMIGA LEADS. AL1	£12.95
☐ AMIGA LEADS. AL2	£12.95
☐ AMIGA LEADS. AL3	£14.95
☐ AMIGA LEADS. AL4	£12.95
☐ AMIGA PRINT LINK	£29.95
☐ CBM 1901 CONVERSION	£29.95
☐ COLLECTION/DELIVERY SERVICE	£24.00

I enclose Cheque/P.O. value £ .....

Charge to Access - My Access Card No. is:

Name .....

Address .....

.....

..... Postcode .....

Tel. No. .....

CCI Tee Shirts *Tell the world you've got the best!*

Terrific Quality and Terrific Value!
Get them for yourself and for giving as presents. They're great to look at and wonderful to touch!

Tee Shirts – £4.45 inc P&P
(white)

TO: Commodore Computing International
Finsbury Business Centre
40 Bowling Green Lane, London EC1R 0NE

Please send me ☐ White **Tee Shirts @ £4.45**
size S ☐ M ☐ L ☐ XL ☐

Name _____

Address _____

_____

Tel _____

Please make cheques or postal order payable to CROFTWARD LTD or state your Access number below

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry Date _____

Signature _____

AMIGA 500 – THE GREAT COVER UP!

Your swish new Amiga 500 should not be subjected to the ordeal of C — coke, coffee, crumbs and crips — at least not while you are not using it! So the best thing to do is cover it up — keep it protected by an exclusively designed Amiga 500 cover. Each CCI Amiga 500 cover is tailor-made, to fit the machine. It has the official Amiga logo printed in full colour on the top and is specialy created to give complete protection against dust and other damaging substances. It is expertly sewn throughout, fully bound and manufactured from very high quality grey supported nylon material.

It has a special mouse pocket and the whole cover fits snugly over the complete Amiga 500 computer, giving it extra protection to help keep it in good working condition.

The Amiga 500 cover — only £7.99 inc. p&p.

ONLY **£7.99** incl. P&P

BUY ONE NOW!!

To: Commodore Computing International,
40 Bowling Green Lane, London EC1R 0NE.
I enclose cheque/P.O. No.
for the amount shown above payable to 'Croftward Ltd' or please debit my ACCESS account No.

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature _____ Expiry date _____

Name _____

Address _____

_____

Telephone Number _____

Please allow 28 days for delivery.

DEVASTATING GAMES. DIFFICULT GAMES.
DEVIOUS GAMES. DEATH DEFYING GAMES.
DISCOVERING GAMES.

DIAMOND GAMES

ALIEN STRIKE	*AMIGA*	*£14.95*
EXTENSOR	*AMIGA*	*£19.95*
BALL RAIDER	*AMIGA*	*£19.95*
HOLLYWOOD POKER	AMIGA	£19.95
SWOOPER	AMIGA	£19.95
DIABLO	AMIGA	£19.95

Decent Games by Diamond Games.

BUDGET AMIGA TITLES £9.95 : KWASIMODO, OTHELLO,
BACKGAMMON, CHECKERS and many more!!
ON THE KINGSIZE LABEL

Diamond Games are distributed by Robtek Ltd,
Unit 4, Isleworth Business Complex, St. John's Road, Isleworth,
Middx. TW7 6NL. 01-847-4457

A Layman's Burst Mode Guide

by M. Garamszeghy

The 1571 disk drive is proving its popularity all over the world. Yet most people fail to use all its remarkable capability. Often the Burst Mode seems mysterious and somewhat daunting. Mike Garamszeghy is a Canadian expert on many aspects of things Commodore. He has written a four part series that will explain how to master this interesting and useful mode.

Part 2: Burst Read

In part 1 of this series on the 1571 burst mode *(TPUG Magazine, Issue 23),* we examined the various burst mode commands and how to access them. This month we shall cover the basics of the burst read data transfer protocol.

Burst mode data transfer is very fast, up to 380 bps (bytes per second). This is considerably faster than the normal 1571 'fast' mode of about 1600 bps and the 1541 (or 1571 slow mode) rate of about 350 bps. (When you take into account the 'overhead', such as disk initialization, track to track jump time and sector seeking time, the average burst mode speed is about 2200 bps, while the average value for 1571 fast mode is about 1100 bps). During normal data transfers (i.e. using **print#, get#, load, save**) between a C-128 and a 1571 or 1541 drive, a significant amount of time is taken up by the convoluted Kernel routines that must be followed for each byte to be sent.

Burst mode eliminates some of the inefficience by sending data in blocks (up to 1k bytes long) based on a much simpler, and therefore much faster, hardware handshake. Data are exchanged directly between the 1571 and the data register of the Complex Interface Adaptor #1 chip (CIA 1), based on a simple signal from the normal serial bus controller (on the CIA 2).

There are four simple steps to performing a burst mode read operation. These are:

- Send the appropriate command string to access a burst mode read;
- Initialize the CIA chips;
- Read the data;
- Restore the default I/O devices.

The first step can be performed by either machine language or BASIC statements. A typical BASIC statement may be as follows:

```
open15,8,15,"u0"+chr$(10)
```

This particular example will ask the 1571 to use the *Query Disk Format* command to analyse the format of side 0, track 0 of a disk. The equivalent in simplified ML (machine language) would look like:

```
ldx #$00
stx #ff00
lda #$0f
ldx #$08
ldy #$0f
jsr $ffba   ;setlfs
lda #$00
jsr #ffbd   ;setnam
jsr #ffc0   ;open
ldx #$0f
jsr $ffc9   ;chkout
lda #$SS
jsr $ffd2   ;chrout
lda #$30
jsr $ffd2   ;chrout
lda $#0a
jsr $ffd2   ;chrout
jsr $ffcc   ;clrchn
```

The first two instructions are the ML equivalent of BASIC's **bank 15** statement. This instruction should be used in ML whenever you want to call Kernal routines because they are all located in BANK 15. The Kernal jump table addresses are all the same as other Commodore computers. (The C-128 also has several new Kernal routines, only one of which is of interest for burst mode. The Spin/Spout routine, which is used for burst writes, will be discussed in the next installment.) The bank switching is handled automatically by the **open** statement in BASIC. If there is a possibility that the disk drive connected to the C-128 is not a 1571 or that the 1571 has been set to 1541 mode, you can test bit 6 of the *fast serial flag* (RAM location $0a 1c, decimal 2588). If this bit is set after an **open** operation (in either BASIC or ML), then the drive is a *fast* device (i.e. a 1571 in fast mode).

The second step is to initialize the interrupt register of CIA 1 and to tell the serial bus that you are ready to receive data. It is easiest to do this with machine language:

```
sei
bit $dc0d
lda $dd00
eor #$10
sta $dd00
```

If this procedure is being called as a subroutine, from either BASIC or ML, then you will need to add an **rts** after the last instruction to return to the calling program. The first instruction disables the normal processor interrupts, such as keyboard scanning. This has the effect of increasing the amount of time that the hardware can dedicate to data transfer and eliminating the trapping of keyboard presses which may cause errors during data transfers. The bit instruction is used to reset the Interrupt Control Register (ICR) of CIA 1. The final three instructions toggle the state of the Acknowledge and Ready For Data (ARFD) line, which is used as a clock during the burst transfer. This is a signal to the system that we are ready to receive data.

The third step is to read the burst data. The basic subroutine for reading burst data bytes is quite simple:

```
      lda   #$00
wait  bit   $dc0d
      beq   wait
      lda   $dd00
      eor   #$10
      sta   $dd00
      lda   $dc0c
      rts
```

The first three instructions create a wait loop until bit 3 of CIA 1 is ICR is turned on. This condition indicates that a byte is ready to be received. The next three instructions toggle the state of the ARFD line, causing a data byte to be transferred. The final two instructions read the data byte from the CIA 1 data register and return to the calling program. To store this byte, an indexed **sta** instruction similar to:

```
sta ($fa) ,y
```

is normally used (assuming zero page locations $fa and $fb contain the low and high bytes respectively of the data buffer, and the y register used as an index). The read subroutine is often called from an indexed loop, especially when reading blocks of data. It is important that you keep track of the number of bytes transferred and that your indexing method can handle the number of bytes involved. A summary of annotated assembly language routines needed to read each of the burst mode commands is given in Table 1. These routines can be entered directly on the C-128 with its built in monitor by replacing the labels (e.g. wait, next) with absolute addresses.

The most convenient location for the ML is the cassette and RS232 buffers beginning at $0b00 (decimal 2816). The combined buffer space gives you 768 bytes for ML. (Remember that the number of bytes transferred for a sector

read is 1 + the number of bytes per sector. MFM format disks may have sector sizes of 128, 256, 512, or 1024 bytes per sector. *Fast load* GCR sectors have 254 bytes per sector. The number of bytes transferred for other burst mode commands depends on the command. See Part 1 of the burst mode article for a complete description of each command.) In order to use the I/O and Kernal routines, the C-128 must be set for bank 15. Unfortunately, this also limits the maximum size of a data buffer to 8k bytes (bank 0 RAM below $4000 is visible in bank 15 also.) This limitation can be overcome by playing with the Memory Management Unit (MMU) configuration register ($ff00 — all banks) to switch between bank 0 and bank 15 on the fly. Your machine code must be in an area visible to both banks (i.e. below $4000, in a location such as the cassette buffer) for this method to work. The indexed **sta** instruction mentioned above should be replaced with:

```
ldx   #$3f
stx   $ff00
sta   ($fa),y
ldx   #$00
stx   $ff00
```

The first two instructions set the C-128 to bank 0. The data byte is then stored in the correct bank 0 location. The last two instructions switch back to bank 15. This simple technique allows you to use about 60k of bank 0 as a data buffer. There is no need to protect the unused RAM in bank 0 from being overwritten by variables (they are in bank 1), but don't forget to start your buffer above any ML or BASIC program that may be occupying bank 0.

The final step, after all of the data have been transferred, processed, and stored, is to close the disk channel and restore the default I/O. In ML, this is done with:

```
cli
jsr   $ffcc   ;clrchn
```

It is very important to include the **cli** instruction. This re-enables the processor interrupts that were turned off by the initial **sei** instruction in step 2.

That, in a nutshell, is how to read data in burst mode. You will see that the longer the file, the greater the advantage of burst mode. The machine language portion is poked into the cassette buffer beginning at RAM address $0b00 (decimal 2816). One final note about burst fast load. I have found by experience that the only way to get consistent performance from this command is to append the DOS wild card character to the end of the filename. I suspect that the somewhat quirky (what else is new?) 1571 operating system expects t have a full 16 character filename (i.e. padded with shifted spaces) for the burst fast load when it searches the directory for your file. Using the DOS wild card eliminates this problem. Fortunately, fast load is the only burst command which uses a filename. In the next installment, we shall examine burst mode writing.

TABLE 1: SUMMARY OF ASSEMBLY LANGUAGE BURST MODE READ ROUTINES

General read-a-burst-byte routine (used by all subroutines below)

```
    read1: lda #$08
     wait: bit $dc0d
           beq wait    ;wait for bit 3 of CIA#1 ICR
    read2: lda $dd00
           eor #$10    ;toggle clock
           sta $dd00
           lda $dc0c   ;get data byte
           rts
```

NOTE: Before using any of the following routines, you must load zero page locations $fa and $fb with the low and high bytes of the start of your data buffer and call the appropriate burst mode command.

Single byte read:
(used for INQUIRE DISK,
INQUIRE STATUS and
read SECTOR INTERLEAVE)

```
   ldy #$00     ;reset pointer
   sei          ;disable interupts
   bit $dcod    ;clear CIA#1 ICR
   jsr read2    ;signal when ready
   jsr read1    ;read byte
   sta ($fa),y  ;store byte
   cli          ;restore interupts
   jsr $ffcc    ;clear I/O channels
   rts
```

Multi byte read for
QUERY DISK FORMAT:

```
          ldy #$00
          sei
          bit $dc0d
          jsr read2
          jsr read1
          jsr store
          cmp #$02
          bcc exit   ;GCR disk
          and #$0e
          cmp #$00
          bne exit   ;MFM error
          jsr read1 ;Read another status byte
          jsr store
          and #$0e
          cmp #$00
          bne exit   ;MFM rror
          jsr read1 ;# sectors/track
          jsr store
          jsr read1 ;# logical track found
          jsr store
          jsr read1 ;minimum sector # found
          jsr store
```

```
        jsr read1 ;maximum sector # found
        jsr store
        jsr read1 ;cp/m interleave
        jsr store
 exit:  cli
        jsr $ffcc
        rts
store:  sta ($fa),y ;store byte
        iny         ;increment pointer
        rts
```

Read N sectors of data:

128 byte MFM sectors:

```
       ldx #number of sectors
       stx $fc
       ldx #00     ;#sectors read
       stx $fd
       sei
       bit $dc0d
       jsr read2
next2:ldy #$00
       jsr read1   ;read status byte
       and #$0e
       cmp #$00
       bne end     ;end if error
next1:jsr read1
       ldx #$3f    ;goto bank 0
       stx $ff00
       sta ($fa),y
       ldx #$00    ;goto bank 15
       stx $ff00
       iny
       cmp #$80    ;end of sector?
       bne next1   ;get next byte
       ldx $fd
       inx
       cpx $fc     ;last sector?
       beq end
       stx $fd
       tya
       clc
       adc #$80    ;inc pntr 128 bytes
       bcc next2   ;read next sector
       inc $fb
       jmp next2
  end:cli
       jsr ffcc
       rts
```

256 byte GCR or 256*n byte MFM sectors:

```
       ldx #number of sectors
       stx $fc
       ldx #$00
       stx $td
       ldx #sector size/256
       stx $fe
       stx $ff
       sei
       ldy #$00
       bit $dc0d
       jsr read2
 next2:jsr read1
       and #$0e
       cmp #$00
       bne end       ;end if error
 next1:jsr read1
       ldx #$3f
       stx $ff00
       sta ($fa),y
       ldx #$00
       stx $ff00
       iny
       cpy #00
       bne next1
       ldx $fe
       dex
       stx $fe
       inc $fb
       cpx #00       ;end of sector?
       ldx $ff
       stx $fe
       bne next1
       ldx $fd
       inx
       cpx $fc       ;last sector?
       bne next2
  end: cli
       jsr $ffcc
       rts
```

FAST LOAD entire file (254 byte GCR sectors):

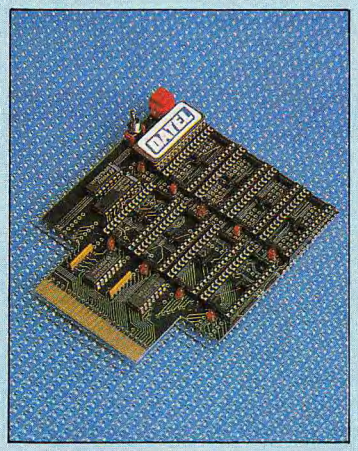
```
       sei
       bit $DC0C
       jsr read2
next2:jsr read1
       sta $fc
       cmp #$02
       bcs last      ;last sector in file
       ldy #$00
next:  jsr read1
       ldx #$3f
       stx $ff00
       sta ($fa),y
       ldx #$00
       stx $ff00
       iny
       cpy #$fe      ;only 254 data bytes
       bne next
       tya
       clc
       adc $fa
       sta $fa
       bcc next2
       inc $fb
       jmp next2
last:  jsr read1     ;get # bytes in last
       sta $fc
       ldy #$00
next3:jsr read1
       ldx #$3f
       stx $ff00
       sta ($fa),y
       ldx #$00
       stx $ff00
       iny
       cpy $fc       ;last byte?
       bne next3
       cli
       jsr $ffcc
       rts
```

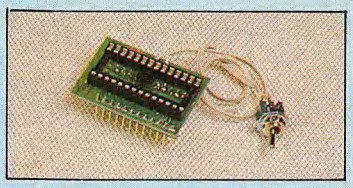
DATEL ELECTRONICS

256K SUPEROM EXPANDER

- ❑ Now you can select from any of 8 32K EPROMs instantly.
- ❑ 8 sockets to accept upto a 32K EPROM in each.
- ❑ On board operating system – no programs to load.
- ❑ Program your own EPROMs using our EPROM programmer.
- ❑ No need to have loads of cartridges – just make a selection from the Superom menu.
- ❑ Directory of utilities on power up.
- ❑ Fully menu driven on power up.
- ❑ Select any slot under software controls.
- ❑ Unique EPROM generator feature will take your own programs – basic or m/c and turn them into autostart EPROMs. (EPROM burner required).
- ❑ Accepts 2764/27128/27256 EPROMs.
- ❑ On board unstoppable reset.

ONLY £29.99

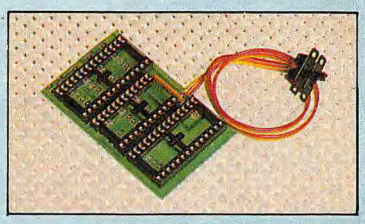




4 WAY KERNAL BOARD

- ❑ This board fits in place of the kernal in your 64 and accepts a 16K or 32K replacement kernal giving 2 or 4 different operating systems.
- ❑ Just flick the switch supplied to select between systems.
- ❑ This is a carrier only – ready to accept your own chip.
- ❑ Now you can have all your different systems available at one time.
- ❑ Full instructions. ❑ Fitted in minutes.

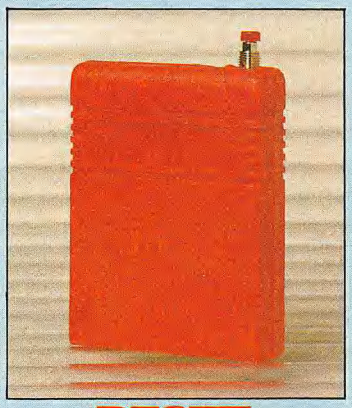
ONLY £8.99



5 WAY KERNAL EXPANDER

- ❑ A multi carrier board accepts up to 3 chips.
- ❑ Fits in place of original kernal of 64.
- ❑ Three sockets – one for the original kernal plus two others each accepting a 16K chip – that's 5 operating systems available at the flick of a switch!
- ❑ Fitted in minutes.
- ❑ Full instructions.

ONLY £12.99



RESET CARTRIDGE

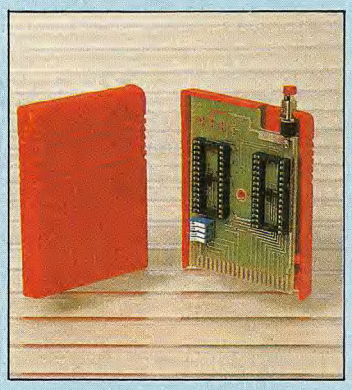
- ❑ Unstoppable reset button.
- ❑ Resets even so called "unstoppable" programs.
- ❑ Add pokes from magazines etc.
- ❑ Fits in cartridge port.
- ❑ Simply plug in.

ONLY £5.99

QUICKSHOT TURBO™

- ❑ Top quality fast action.
- ❑ Top & trigger fire buttons.
- ❑ Rapid fire/auto action.
- ❑ Suction feet for one handed action.
- ❑ Extra hardwearing.

ONLY £12.99 for 64/128
ONLY £13.99 for C16



QUICKSHOT II

- ❑ World's top selling joystick.
- ❑ Top & trigger fire buttons.
- ❑ Rapid fire control.
- ❑ Suction feet.

ONLY £7.99 for C64/128
ONLY £8.99 for C16

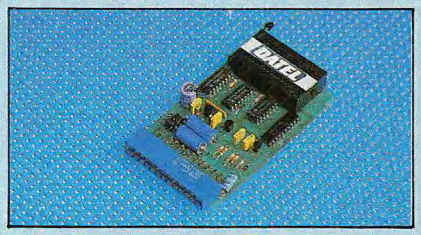
DEEP SCAN BURST NIBBLER™

- ❑ The most powerful disk nibbler available anywhere, at any price!
- ❑ Burst Nibbler is actually a two part system – a software package **and** a parallel cable to connect the 1541/1570/1571 to 64/128 (state type).
- ❑ What gives Burst Nibbler its power? Conventional nibblers have to decode the data from the disk before it can transfer it using the serial bus' – when non standard data is encountered they are beat. Burst Nibbler transfers data as raw GCR code via the parallel cable without the need to decode it so you get a perfect copy of the original.

● Will nibble upto 41 tracks. ● Copy a whole disk in under 2 minutes. ● Full instructions.
● Regular updates – we always ship the latest. ● Fitted in minutes – no soldering usually required.
● Full or ½ tracks. ● No need to buy parallel cable if you have Disk Demon/Dolphin etc.
● Cable has throughbus extension for other add ons.

- ❑ Whether to choose FastHack'em or Burst Nibbler? Fast Hack'Em is unbeatable value as an "all-rounder" – with nibblers, 1 or 2 drive copy, format, file copy, 1571 copy etc. etc., so if you have a more general requirement perhaps FastHack'Em is for you. Burst Nibbler is a pure nibbler second to none, for the reasons stated. So if it's just making backups you are interested in, there is no other product to beat it.

ONLY £24.99 COMPLETE
SOFTWARE ONLY £12.99 CABLE ONLY £14.99



EPROMMER 64™

- ❑ A top quality, easy-to-use EPROM programmer for the 64/128.
- ❑ Fully menu driven software/hardware package makes programming/reading/verifying/copying EPROMs simplicity itself.
- ❑ Will program 2716, 2732, 2764, 27128 and 27256 chips. 12.5, 21 or 25 volts.
- ❑ Fits into user port for maximum compatibility with cartridges/Superom Board etc.
- ❑ Full feature system – all functions covered including device check/verify.
- ❑ We believe Eprommer 64 is the most comprehensive, most friendly and best value for money programmer available for the 64/128.
- ❑ Ideal companion for Superom Board, Cartridge Development System, our kernal expanders or indeed any EPROM base project.
- ❑ Comes complete with instructions – plus the cartridge handbook.

ONLY £39.99 COMPLETE

16K EPROM BOARD

- ❑ Accepts 2 x 8K EPROMs.
- ❑ Switchable to configure as 2 x 8K or 16K or off.
- ❑ On board unstoppable reset.
- ❑ Full instructions.

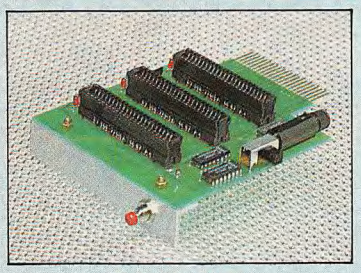
ONLY £8.99

DISK NOTCHER

- ❑ Quickly and easily double your disk capacity.
- ❑ Use both sides of your disks.
- ❑ Simple to use.
- ❑ Takes seconds.

ONLY £4.99

DATEL ELECTRONICS



3 SLOT MOTHERBOARD

Save wear and tear on your Expansion Port

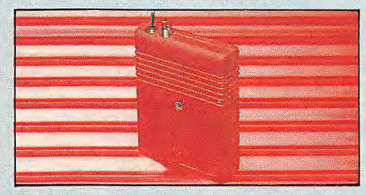
- ❑ Accepts 3 cartridges.
- ❑ Onboard safety fuse.
- ❑ Switch in/out any slot.
- ❑ High grade PCB.
- ❑ Fully buffered.
- ❑ Reset button.

ONLY £16.99

DATA RECORDER

- ❑ Quality Commodore compatible data recorder.
- ❑ Pause control.
- ❑ Suitable for 64/128.
- ❑ Counter.
- ❑ Send now for quick delivery.

ONLY £24.99



SMART CART ™

Now you can have an 8K or 32K cartridge that you program like RAM then acts like ROM!

- ❑ 8K or 32K pseudo ROM.
- ❑ Battery backed to last up to 5 years (lithium battery).
- ❑ Simply load the program you require – then flick the switch. The cartridge can then be removed just like a ROM cartridge.
- ❑ Make your own cartridges including autostart types – without an EPROM burner.
- ❑ Can be switched on or off board via software.
- ❑ I/O 2 slot open for special programming techniques.
- ❑ 32K version has 4 x 8K pages.
- ❑ Some knowledge of M/C is helpful – but full instruction are provided.

8K VERSION £14.99
32K VERSION £29.99

SMARTCART UTILITIES

A series of utility programs for use with Smartcart. Simply load in the program and you have a powerful cartridge. When you have a different requirement – load in another program and you have a new cartridge. The process takes seconds, and can be repeated any number of times.

We intend to release a range of programs. The first available are:

DISKMATE II

❑ all the features of Diskmate II (see ad).

Loaded in seconds – with full instructions. **ONLY £9.99**

PRINTER IV

Now you can turn your MPS 801 into 4 printers in one!!

- ❑ Alternative character set ROM – fitted in seconds.
- ❑ All four sets have true descenders.
- ❑ 100% compatible with all software.
- ❑ Descender. ❑ Eclipse.
- ❑ Scribe. ❑ Future.
- ❑ Choose any set at the flick of a switch.

"For anyone who uses their printer often this chip is a must. It's quick and easy to use and the end results are impressive" – Your Commodore, Jan 87.

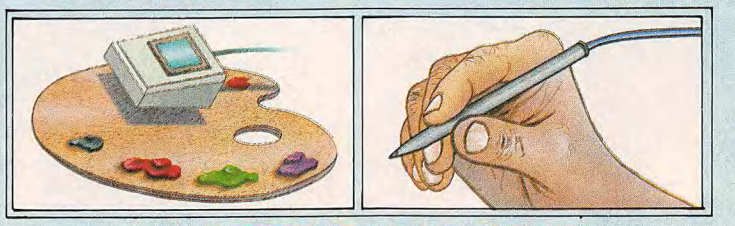
ONLY £19.99

TURBO ROM II

Turbo Rom II is a replacement for the actual kernal inside your 64. It provides superfast load/save routines.

- ❑ Loads most programs at 5-6 times normal speed.
- ❑ Saves at 5-6 times normal.
- ❑ Improved DOS support including 10 sec format.
- ❑ Programmed function keys:- load, directory, old, etc.
- ❑ Return to normal kernal at flick of a switch.
- ❑ FCOPY – 250 block file copier.
- ❑ FLOAD – special I/O loader.
- ❑ Plus lots more.
- ❑ Fitted in minutes – no soldering usually required. (On some 64's the old ROM may have to be desoldered).

ONLY £14.99



BLAZING PADDLES

A complete lightpen/graphics illustrator package.

- ❑ A fully icon/menu driven graphics package of a calibre which should cost much more.
- ❑ Complete with a fibre optical lightpen system for pin point accuracy.
- ❑ Multi feature software including:
  ● Range of brushes ● Airbrush ● Rectangle ● Circle ● Rubberbanding ● Lines ● Freehand ● Zoom mode ● Printer dump ● Load/save ● Advanced colour mixing – over 200 hues!! ● Cut and paste allows shapes/windows/pictures to be saved to/from tape/disk.
- ❑ Blazing Paddles will also work with many other input devices including; Joysticks, Mice, Graphics Tablets, Trackball etc.
- ❑ Pictures can be saved from Action Replay and edited with Blazing Paddles.

Complete Blazing Paddles & Lightpen **ONLY £24.99**

Blazing Paddles available separately for **£12.99**

TOOLKIT IV

The ultimate disk toolkit for the 1540/1541

- ❑ A disk toolkit is an absolute must for the serious disk hacker. Toolkit IV has more features than most for less.
- ❑ DISK DOCTOR V2 – Read and write any track and sector including extra and renumbered tracks. Repair damaged sectors. Look underneath read errors.
- ❑ HEADER/GAP EDITOR – Decodes and displays ALL header information including off bytes and header gap. Rewrite the entire header and header gap. Renumber sectors. Also edit any sector tail gap.
- ❑ DISK LOOK – Sort directory. Recover lost files. Display file start/end addresses. Disassemble any file program directly from the disk to SCREEN or PRINTER including undocumented opcodes. Edit Bam. Much, much more.
- ❑ FILE COMPACTOR – Can compact machine programs by up to 50%. Saves disk space. Compacted programs run as normal.
- ❑ FAST DISK COPY – Copy an entire disk in 2 minutes or less using single 1541.
- ❑ FAST FILE COPY – Selective file copy. Works at up to 6 times normal speed.
- ❑ FORMATTER – 10 second format an entire disk or format any individual track or half track 0 to 41. Redefine any of 30 parameters to create or recreate unique disk formats.
- ❑ ERROR EDIT – Quickly find and recreate all read errors including extra and renumbered tracks or sectors and half tracks from 0 to 41. Even recreates data under errors and allows you to redefine any necessary parameters.

ONLY £9.99

RAM DISK

- ❑ Turn your Smart Cart into a 32K RAM/disk.
- ❑ 32K of instant storage area for files/programs.
- ❑ Load/save instantly.
- ❑ Disk type commands: load, save, directory, scratch.
- ❑ Program data retained when computer is switched off!
- ❑ Full command set with instructions.

ONLY £9.99

ROBOTEK 64

Model & Robot Control made easy

- ❑ Robotek 64 is a comprehensive hardware/software package which enables you to connect your 64/128 to the outside world.
- ❑ 4 output channels – each with onboard relay
- ❑ 4 input channels – each fully buffered TTL level sensing.
- ❑ Analogue input with full 8 bit conversion.
- ❑ Voice input for voice control.
- ❑ Software features:- test mode/analogue measurement/voice activate/digital readout etc.
- ❑ Excellent value! **ONLY £39.99**

including hardware/software/ mic etc. (State tape or disk)

DIGITAL SOUND SAMPLER

- ❑ The new sampler allows you to record any sound digitally into memory and then replay it with astounding effects.
- ❑ Playback forwards/backwards with echo/ reverb/ring modulation etc.
- ❑ Now with full sound editing module to produce outstanding effects.
- ❑ Full 8 bit D to A and ADC conversion.
- ❑ MIDI compatible with suitable interface. (I.e. Datel unit for £29.99, see ad).
- ❑ Live effects menu includes real time display of waveforms.
- ❑ Line in/mic in/line out/feedback controls.
- ❑ Powerful sequencer with editing features.
- ❑ Load/save sample.
- ❑ Up to 8 samples in memory at one time.
- ❑ Tape or disk (please state).
- ❑ Complete software/hardware package **£49.99**
- ❑ Com-Drum software is available separately at **£9.99** to turn your Sampler II into a Com-Drum system as well as a sampling system.

COM-DRUM

Digital Drum System

- ❑ Now you can turn your computer into a digital drum system. ❑ Hardware/software package.
- ❑ 8 digital drum sounds in memory at one time.
- ❑ Complete with 3 drum kits.
- ❑ Real drum sounds – not synthesised.
- ❑ Create superb drum rhythms with real and step time. ❑ Full editing. ❑ Menu driven.
- ❑ Output to hi-fi or through tv speaker.
- ❑ Load/save facilities.

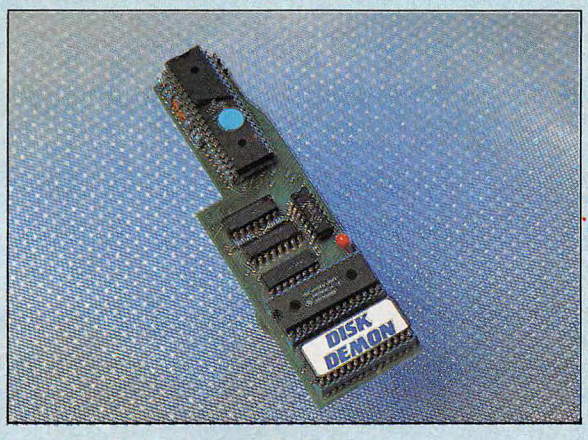
ONLY £29.99 (state tape or disk)

COM-DRUM EDITOR

- ❑ 24 drum sounds supplied on disk to enable you to construct your own drum kit.
- ❑ Re-arrange sounds supplied with a Com-Drum to make new kits.
- ❑ With sound sampler hardware you can record your own kits. ❑ Load/save facilities.

ONLY £4.99 disk only

DATEL ELECTRONICS



PROFESSIONAL DOS ™ MIKROTRONIC

£64.99 POST FREE with Disc Demon operating system

"The world's fastest parallel operating system"

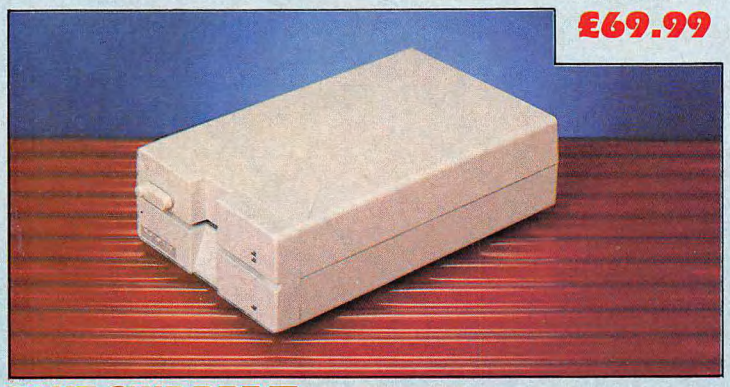
- ❑ Loads a typical 202 block program file in under 3 seconds!
- ❑ 60x faster load (PRG files).
- ❑ 25x faster load (SEQ files).
- ❑ 20x faster save (PRG files).
- ❑ 20x faster save (SEQ files).

PLUS AN ADVANCED COMMAND STRUCTURE INCLUDING:

- ❑ Fast format – up to 40 tracks (749 blocks).
- ❑ 16 function keys: list, run, load, directory, format, save, old, verify, etc.
- ❑ Fload will fastload files up to 250 blocks (other similar systems will only cope with 202 blocks).
- ❑ Number conversion. ❑ Reset.
- ❑ Unique built in file copier will copy files up to 250 blocks like lightning – multiple copy options – perfect for copying Action Replay files.
- ❑ Highly compatible with commercial software – can be switched out for non compatible programs.
- ❑ Perfect for use with Action Replay 3 – a typical AR3 backup will reload in about 3 seconds – yes 3 seconds!
- ❑ Speeds up other DOS functions including verify, scratch etc.
- ❑ Comes complete with superfast file and whole disk copier free!
- ❑ Screen on or off during loading.
- ❑ Enhanced command set – over 30 new commands.
- ❑ Easily fitted – Disk Demon plugs inside the 1541 and the new operating system chip plugs inside the C64/128. Fitting takes only minutes and usually requires no soldering.
- ❑ User port throughbus supplied free – you could pay £15.00 for this alone.
- ❑ Supplied complete – no more to buy.
- ❑ Works on C128/1541 in 64 or 128 mode.

C128 version

£69.99



BLUE CHIP DRIVE

● **Fully C64/128 compatible.**

- ❑ At last a top quality drive at a sensible price.
- ❑ Super slimline case
- ❑ External power supply for cool operation.
- ❑ Direct drive motor.
- ❑ Supplied complete with all cables – no more to buy.
- ❑ This drive is now probably the most compatible drive available for the Commodore. More so than even Commodores own '1541C. Much more so than other so called compatibles. In fact we have been unable to find a program including the latest that would not work. (At time of Press).
- ❑ **No need to look elsewhere – this is the best.**

ONLY £139.99 POST FREE

(If you require courier delivery add £5.00).

ULTRA CRUNCHER

● **The ultimate cartridge based program compactor.**

- ❑ Compacts by upto 30%!
- ❑ More programs for disk.
- ❑ 3 compacting programs on one cartridge.
- ❑ Fast loading/saving routines – works with Disc Demon.
- ❑ Can even further compact AR III files!
- ❑ 250 block file copy function.
- ❑ Full DOS support including fast format.

ONLY £12.99 on cartridge.

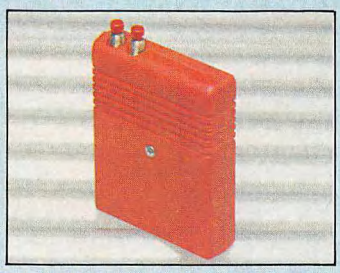
Available as chip only for 256K Superom Board for only £7.99

FAST HACK'EM ™

● **Multi Module Disk Nibbler – all on one disk.**

- ❑ Single 1541 Nibbler – Copy a disk in 2 minutes.
- ❑ Auto Nibbler – Copy an entire protected disk in 3 minutes.
- ❑ Super fast File Copy – Under 9 seconds typically.
- ❑ Copes with Fat Tracks.
- ❑ Superfast Copy – Entire disk in 36 seconds with verify.
- ❑ Twin Drive Copier – Even faster!
- ❑ Plus unique "Parameters" mode. These files "Unlock" the more heavily protected programs with a parameter for a particular brand or even single program.
- ❑ **No other product is such a good "All Rounder" at this price its unbeatable.**

ONLY £9.99 POST FREE

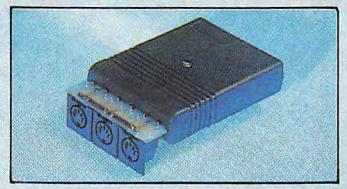


DISKMATE II

The Disk Utility Cartridge

- ❑ Disk fastload cartridge.
- ❑ Up to 5 times faster.
- ❑ Fast save. ❑ Fast format (10 secs).
- ❑ Improved DOS – single stroke commands – load/save/dir/old etc.
- ❑ Redefined function keys for fast operation of common commands.
- ❑ Powerful toolkit commands including: old/delete/merge/copy/append/autonum/linesave etc.
- ❑ Plus a full machine code monitor – too many features to list but it has them all!
- ❑ Special switching techniques make Diskmate invisible to the system. Therefore it is a more compatible fastloader than other types.
- ❑ Diskmate II is

ONLY £14.99

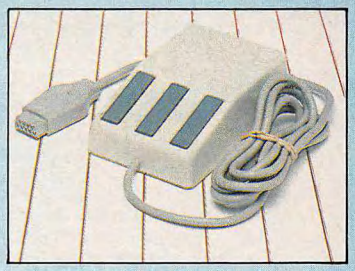


MIDI 64

A Full Midi Interface for the 64/128 at a realistic price

- ❑ MIDI in. ❑ MIDI thru. ❑ 2 x MIDI out.
- ❑ Compatible with most leading software packages including: Seil, JMS, Advanced Music System, Joreth, Steinburg etc.

ONLY £29.99



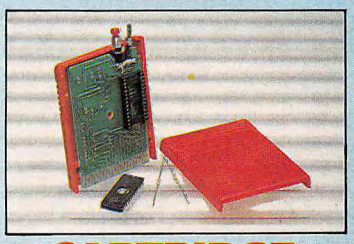
MOUSE

- ❑ CBM 64/128 mouse.
- ❑ Wide compatibility with software including: Blazing Paddles.
- ❑ Works by mimicking joystick so will work in any joystick application including graphic packages only designed for joystick.
- ❑ Functions on either joystick port.
- ❑ Optical system operation.

ONLY £24.99

CHIPS

- ❑ 27128 **£3.00 EACH**
- ❑ 27256 **£4.50 EACH**



CARTRIDGE DEVELOPMENT SYSTEM

- ❑ All the necessary parts to produce an 8K/16K auto-start cartridge.
- ❑ Top quality PCB. ❑ Injection moulded case.
- ❑ Reset switch. ❑ 16K EPROM.
- ❑ "Cartridge Handbook" gives full details and tips on building and configuring the cartridge for many uses.

ONLY £12.99

complete with handbook

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER . . . .

BY PHONE	BY POST	BY PRESTEL/FAX
0782 273815 24 hr Credit Card Line	Send cheques/POs made payable to 'Datel Electronics'	Prestel Pages * 25880000A Fax Orders 0782 264510

DATEL ELECTRONICS

UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT. TELEX:

SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

TOTAL BACK-UP POWER CBM 64/128

PERIPHERALS..THE FINAL FRONTIER..OUR MISSION..TO BOLDLY GO WHERE NO OTHER UTILITIES HAVE GONE BEFORE

CAPTAIN'S LOG...THE TOTAL SOLUTION TO ALL YOUR BACK-UP NEEDS... THE ULTIMATE BACK-UP CARTRIDGE HERE NOW !!

REPORT ON FINDINGS

Action Replay Mk III is more powerful, more friendly and will back up more programs than any competing utility by taking a 'Snapshot' of the program in memory so it doesn't matter how it was loaded... from disk or tape, at normal or turbo speeds... the results are the same – **Perfect!! Amazing!!!**

STARBASE UPDATE

- Simple to use: just press the button and make a complete backup: Tape to Tape, Tape to Disk, Disk to Disk, Disk to Tape. – THE PROCESS IS AUTOMATIC – JUST GIVE THE BACKUP A NAME.
- All backups will reload at turbo speed independently of the cartridge.
- Dual speed tape turbo system. Programs can load up to 3 times faster than commercial turbos – that's over 10 times normal Commodore speed.
- Freeze the action then view the program with the monitor feature. Add pokes for infinite lives etc. Then restart the game or backup – ideal for customised versions of your games.
- Picture Save. Save any multi-colour. Hires screen to disk or tape. Compatible with Blazing Paddles, Koala, Slideshow etc.
- Fully compatible with 1541, 1541C, 1570, 1571, and ehancer or any CBM compatible data recorder.
- For C64, 64C, 128, 128D (in 64 mode).
- Unique Sprite Monitor. Freeze the Action and view all the Sprites, watch the animations scroll across the screen. Save Sprites to disk or tape. Customise your games by loading sprites from one game to another – then restart the program or make a backup.
- Compatible with fast DOS and Turbo ROM systems.
- Backup process in turbo speed – faster than any rivals.
- Special compacting techniques. Each program is saved as a single file.
- Transfers multistage tape programs to disk – more than any other cartridge – even the extra stages are turbo load – a unique feature.
- Sprite Killer! make yourself indestructible by disabling Sprite collisions in games.
- Fast disk format (20 secs).
- Built-in unstoppable reset button.

ONLY £29·99 POST FREE

ACTION REPLAY MK III

PLUS Built In FASTLOADER

Action Replay III even has a built in disk fast loader which speeds up loading 5 times. Uses no memory – invisible to the system. You could pay £20 alone for this feature.

WARP 25 BREAKS THROUGH THE 10 SECOND BARRIER!

Action Replay III now comes with an amazing new Disk Bootloader that will reload your backups at TWENTY FIVE TIMES normal speed. The fastest disk turbo yet devised!! There are NO CATCHES. WARP*25 works with ALL your games. Works with any disk drive. No preload required – No hardware modifications necessary – No user knowledge required – programs load INDEPENDENTLY. LOADING TIME – 9.8 SECONDS (for a typical game saved by WARP*25 in conjunction with ACTION REPLAY III). This time is for the COMPLETE load process from start to finish. Reload is entirely INDEPENDENT of the cartridge or any other hardware.
Compare these (accurate!) figures for some rival backup systems:

SYSTEM	LOAD TIME	PROGRAMS PER DISK	CARTRIDGE REQUIRED?
ACTION REPLAY MK III SAVED WITH NORMAL TURBO	25 SECS	THREE	NO
ACTION REPLAY MK III SAVED WITH WARP*25	9.8 SECS	THREE	NO
FREEZE FRAME (MK IV)	40 SECS	TWO OR THREE	NO
FREEZE FRAME (LAZER)	25 SECS	TWO	YES
EXPERT SYSTEM	30 SECS	THREE	NO

All purchasers of Action Replay III will receive WARP*25 FREE with their cartridge. Existing Action Replay III owners can obtain WARP*25 Disk turbo by sending £2.50. post free. (No need to send your cartridge). OR obtain it FREE on the Enhancement Disk (£7.95).

THE ACTION REPLAY ENHANCEMENT DISK
The best collection of tape to disk transfer routines for nonstandard multiload programs (eg Dragons Lair I and II, Championship Wrestling, Summer Games, Ace of Aces, Gauntlet, Supercycle, Marble Madness, World Games). 31 titles in all. Uses our unique parameter system. No user knowledge required. Turboload throughout. NOTE: Standard cartridge transfers normal multiloaders eg Winter Games etc. etc. Disk includes file copy and disk backup utilities.
PRICE £7.95 with FREE! Multicolour Slideshow for display of loading screens, hires pictures etc. saved by Action Replay. Great entertainment!

PERFORMANCE GUARANTEE
100% Success? Rival Claims? Who's Kidding Who?
Action Replay Mk III will backup any program which any other cartridge can backup – and more! It also has an unmatchable range of features. Consider 'Freeze-Frame' for example, which uses more disk space, saves at slower speed, has slower tape loader, has no built in disk fastloader, no picture, Sprite or restart features and costs £10 more than Action Replay. So who's kidding who? Buy Action Replay Mk III. If you find that it does not live up to our claims return it within 7 days of receipt and your money will be refunded.

USUALLY SAMEDAY DESPATCH ON ALL ORDERS.

datel electronics

Send cheques/postal orders to:
DATEL ELECTRONICS, UNIT 8/9 DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, STOKE-ON-TRENT. TEL: 0782 273815 TELEX: 367257 TELSER G.

SEE OUR DOUBLE PAGE ADVERTISEMENT ELSEWHERE IN THIS MAGAZINE FOR OUR FULL RANGE OF COMMODORE ADD ONS. SEE US ON PRESTEL PAGE No 258880000A 12 PAGE CATALOGUE + ORDER PAGE.

VISA Access

CALL 24HR CREDIT CARD LINE
0782 273815

Feature

COMPUNET TAKES THE AMIGA ONLINE!

Jonathan Littlewood takes a look at Compunet's latest development

At the PCW Show, held recently at Olympia, Compunet announced that access to the on-line database, once the preserve of Commodore C64 and C128 owners only, was to be made available to Amiga owners. Although not ready until later in the year the Compunet 'front-end' software for the Amiga was n show in a demonstration form. Despite being unfinished it was plain that this is an impressive piece of software.

The Amiga needs special software to communicate with Compunet because the online database uses its own protocols and screen formats. Unlike virtually all other systems of its kind Compunet uses an error-correcting protocol for all messages between the host and user's computer. This means that if the telephone line is noisy the Compunet software will detect any corrupted bytes and resend them. While the system may slow down on a noisy line as it resending blocks of screen data, the result is always a perfect screen. Indeed in two years of using Compunet I have yet to see a corrupted screen due to line noise — more than I can say for any other on-line service I use.

As Compunent was originally intended for the C64 it uses that machine's character set, including all the graphics symbols. The Compunet software for the Amiga must therefore handle the special Compunet protocol and emulate the C64 screen. The programmers responsible for the Amiga software have expressed some unhappiness about emulating an eigt bit machine's display on such a powerful graphics engine!

The Amiga version is far superior to the C64 software. Full use has been made of the Amiga's multi-tasking and windowing capabilities, so that for example a user can prepare a word-processor document in one window while another shows the status of a demo program being simultaneously downloaded from Compunet.

Using the Amiga's eighty column display two Compunet frames can be shown side by side, allowing the last directory to be kept on screen while reading the contents of one of its frames. Gone is the famous Compunet 'duckshoot' menu, which scrolls across the bottom of the screen on the C64, instead Intuition's drop-down menus and gadgets have been used.

The Amiga 'front-end' software is fully compatible with all existing Compunet frame types. This extends to allowing the Amiga to download C64 programs, though obviously they cannot be run without transfer to the eight bit machine. Amiga owners will have one facility, not available to their eight bit brethren—the ability to up and download screens in the Amiga's own higher resolution formats. Apparently a full 4096 colours will be available using 'Hold And Modify'.

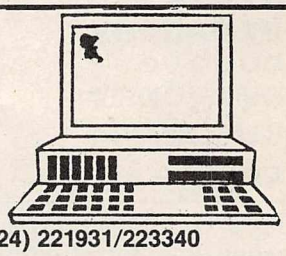
Within days of Compunet's announcement of its availability to Amiga owners the first Amiga Demo was uploaded — via a Commodore 64. The database already has a lot of users interested in the Amiga. The Amiga User's Group, for example, has been running an excellent area for some time. Other areas include ICPUG's 'Amiga Forum' and the 'Amiga Corner'. An Amiga 'Buddies' section started recently in Amiga Corner, already has over fifty Amiga owners in contact with each other.

The Compunet 'front-end' software for the Amiga will be made available on disk for £25 at the beginning of December. Users with XMODEM or Kermit software will be able to download it at a five pound saving. The software will work with any Hayes compatible V23 modem and Compunet are considering providing access at speeds other than the current 1200/75 split baud rate.

J.L.

CBS

22 ST. LEONARDS ROAD
BEXHILL-ON-SEA
EAST SUSSEX TN40 1HT
COMPUTERS



MAIL ORDER DIVISION 17 EVERSLEY ROAD, BEXHILL ON SEA, E. SUSSEX. Tel (0424) 221931/223340

DEALERS FOR: APRICOT, AMSTRAD, ALTOS, CITIZEN, ATARI, COMMODORE, TANDON, EPSON, STAR, CUMANA, PHILIPS ETC.

AMIGA SOFTWARE		AMIGA SOFTWARE		AMIGA SOFTWARE
Adventure Construction set	£22.50	Kampfegruppe	£22.50	
Aegis Animator & Images	£99.95	Karate Kid II	£17.95	
Amiga Print	£69.95	Knight Orcs	£14.99	
Amiga Textcraft	£49.95	Leather Goddesses	£22.50	★
Archon	£23.50	Marble Madness	22.95	**Phone for**
Archon II	£23.50	Mean 18 Golf	£22.50	**latest releases**
Arctic Fox	£22.95	Mindshadow	£17.95	★
Balance of Power	£21.95	Music Studio	£26.50	
Barbarian	£17.95	Ogre	£17.50	
Bards Tale	£23.50	Portal	£26.50	
Baseball	£17.95	Pagesetter	£99.95	
Borrowed Time	£17.95	SDI	£22.50	
Brian Clough Football	£17.95	Scribble II	£74.95	
Bureaucracy	£26.50	Shanghai	£17.95	
Chessmaster 2000	£29.95	Silent Service	£17.95	
Defender of the Crown	£21.95	Sinbad	£22.50	
Deja Vu	£22.50	Skyfox	£22.95	
Deluxe Music Construction	£59.95	Space Quest	£29.95	
Deluxe Paint II	£59.95	Star Cross	£22.50	
Faerytale Adventure	£36.95	Starglider	£17.95	
Flight Simulator II	£37.50	Station Fall	£22.50	
Flight Sim Scenery Disc 7	£18.95	Superbase Personal	£79.95	
Gold Runner	£17.95	The Pawn	£17.95	
G.. American Football	£17.95	Ultima III	£22.95	
Guild of Thieves	£17.95	Uninvited	£22.50	
Hacker II	£17.95	VIP Professional	£109.95	
Hitchhikers Guide	£22.50	Winter Games	£17.95	
Hollywood Strip Poker	£14.99	World Games	£17.95	
Instant Music (Electronic Arts)	£23.50	Instant Music (Electronic Arts)	£23.50	

★ INC VAT AND FREE DELIVERY ★

TO ORDER: Cheques/Postal Orders to CBS Computers. Visa/Access phone or send details. Prices include VAT plus FREE delivery in the UK. Overseas add £2 to software, phone on hardware. Allow max 14 days delivery. All good subject to availability, prices liable to change without notice.

ORDER FORM:

Name: .....

Address: .....

..... Code: .....

Access/Visa No.....Exp date.....

Total	

FONTMASTER 128

Word Processing System for the 128

There are very many good and indeed excellent word processors available on the market today for the 128. Some cheap, most expensive, but on the whole like everything else, you get what you pay for. £50.00 will buy you FONTMASTER 128. Not just a decent product, but one which brings you everything from a "state of the art" w/p system. In fact there are so many features that I haven't anywhere near the space to give them all credit. For the serious minded 128 user who wants everything here it is.

A well written manual is for me the key to easy understanding in any new subject. There is a beautifully documented 110 page users guide. The writer of the program was also responsible for writing the manual... both excellent! No time wasting thumbing backwards and forwards through page after page of instructions because with this you're led gently and comfortably step by step in the most logical sequence through the learning process.

The disks supplied (there are three) have no copy protection and you're encouraged to make backup copies. A file exists especially for this purpose. The two operating disks may be backed up onto one double side disk if you have a 1571. Along with the package comes a Clip Art disk containing over 100 graphic images for use in text if needed. The usual signs and animal shapes etc. are all there. A hardware protection key is the device that allows you work with FONTMASTER 128 and without it you don't produce anything. This is easily plugged into the cassette port.

FONTMASTER 128 has a really good system set up that enables you to get the best from your printer/interface combination. I personally have a Citizen MSP10E dot matrix printer which runs through a Uniprint interface. As you might think this could be quite difficult to access all the capabilities of the Citizen... but no!... The set up menu has over 100 printers to choose from along with sixteen or so interfaces all of which can be customised if your particular interface isn't included.

Once your configuration is saved, along with personal preference of screen colours, each time you auto-boot the program your set up is automatically chosen. The working screen hs a neat help area at the top showing the current font (typeface) you are using, indicators showing which modifiers are in use, column and line number, memory used etc. The comprehensive display also changes when different functions are called upon such as handling disk/font commands.

45 Fonts

There are over 65 powerful commands at your disposal to help produce a work of art. Over 45 different fonts including Russian, Greek, Hebrew, Arabic and Inuktitut. Not that I shall ever get to use them but it's nice to tell your friends! Together these make 55 fonts (any combination of 9 can be installed in a document at a time). Another set to mention are decorative borders, 42 types to take your fancy. A character set generator is included (of course) as if the choice wasn't enough! Every font can be modified, in fact there are no more than 20 ways to change each font i.e. underline, italics etc... This makes possible 900 different combinations. Enough, I think, to impress almost anyone.

All the cursor movement around the text screen is simple enough to grasp along with the editing controls. Block move, copy and delete. Cut and paste, find and replace are all a joy to use.

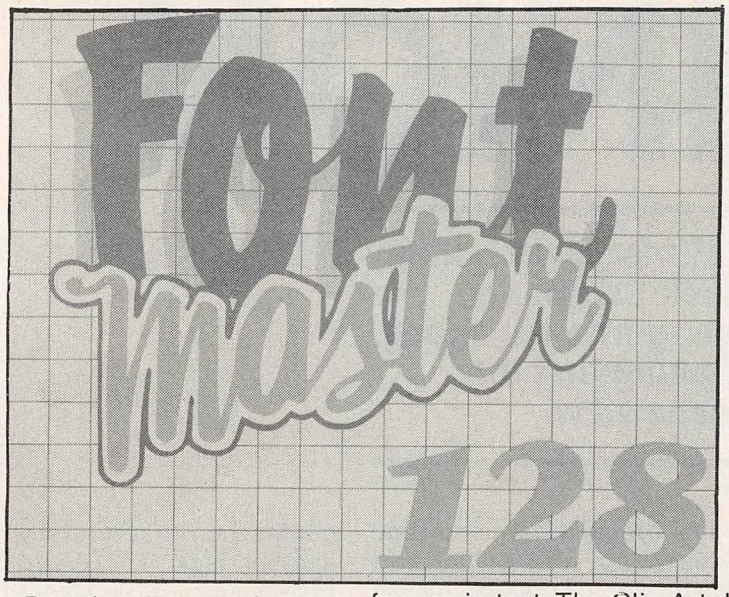
When starting out Demo files help show how on screen modifiers and formatters are put to use. They show what happens if you use such things as expanded or compressed type, 4 different pitches, bold face or italics, inverse or underline, subscript or superscript or how about overlapping one character over another to give unique symbols!

Type can be formatted to suit whatever page layout you wish. It is possible to present your copy into columns just as in this article. Normal word wrap will give a smooth left sided column or justification will produce smooth aligned edges to bth left and right sides. Lines can be centred on page or even made to be produced in mirror image! (That'll come in very handy when I master the use of Arabic!).

Everything possible is adjustable to suit your preference. Individual letter spacing or line spacings are

FONTS

arabic(ﺵﻕﻱﺏﺩ)	[illegible]	manhattan	script
ATHENS	freehand	roman	shadow
bauhaus	futura	misc(§½©◆×Ω)	split
block	greek(ΑΣΔΦΓ)	monogram	stencil
broadway	hairpin	news	stop
bubble	hebrew(תהדגא)	olde english	stopbold
burgundy	italic	pierrot	tech
BUSORAMA	korean(ㄷㅅㄷㄱㅈ)	print	typewriter
celtic	LED	russian(ДжыКИ)	visa



possible. Page headers and footers can be formatted to give automatic numbering both decimal and (you guessed it) roman numeral. This makes FONTMASTER 128 comparable to most commercial typesetting systems around today.

Graphic images can be converted for use in text. The Clip Art disk as mentioned before has many individual images that can be combined into or even onto your text. Now you wouldn't be surprised if I told you it's possible to use these images in negative form would you... Well you can.

Video Display

One really beautiful thing that this system has is a video display of your text as it will appear on paper. That is to say all the beautiful typefaces and attributes appear, as they will on paper, but onto your screen. A real saving on paper and a chance to edit your document before committing to paper.

I am so impressed with this word processor that I can't wait for the finishing touch due to appear soon... a 72,000 word spell checker. There isn't one bad thing I can say about FONTMASTER.

This package won the Best Innovative Software Award at the Chicago Consumer Electronics Show last June.

If like me, you're fed up with your old typewriter typeface have yourself a facelift! Get FONTMASTER 128 and produce type like the professionals.

B.C.

Contact: BYTES and PIECES, 37 Cecil Street, Lytham, Lancashire FY8 5NN. Tel: (0253) 734330.

VALUECALC

A spreadsheet — Probably the single most used type of computer program in the world. And with good reason — the ability to work out a large number of tedious calculations all at once can be a terrific boon, not only to accountants but also to builders, engineers, advertising agencies, publishers . . . The list is endless.

Published in the United States by Melody Hall in 1985, ValueCalc has just been released in the UK at £9.99. At that price, it is within the budget of most users. But is it any good?

Before going into the merits and demerits of ValueCalc, it is probably worth recapping briefly on what a spreadsheet is and how it works:

Think of a huge sheet of paper ruled into a number of rows and columns. Information — words, numbers or formulae — can be entered into any of the boxes formed by the intersection of a row and a column. An electronic spreadsheet does exactly the same except that any calculations are carried out automatically. For example, the cost price of a range of items might be entered into one column, the cost of sales into the next and the selling price into a third. An electronic spreadsheet, properly formatted, could arrange for the profit margin to be entered into a fourth column and for the four columns to be totalled without any further entries being made.

Electronic spreadsheets really start to become useful when they are used to perform "what if?" calculations. In the above example, you could see in seconds what effect on overall profit would be made if the cost of sales were reduced by a given percentage. To do this manually would be a lengthy procedure.

Two Math Functions

So — what does ValueCalc actually do? Well, it offers a matrix 64 rows deep by 64 columns wide. The width of the columns can be set to any value between 4 and 36 characters. Formula cells can refer to other (numeric or formula) cells in their calculations. Ranges (i.e. rectangular blocks of cells) can be copied from one part of the spreadsheet to another — either with absolute or relative values. (Relative copying means, for example, that if cell C6 contained the formula C5 x C4 - C1 and it was copied to cell D6, then D6 would contain the formula D5 x D4 - D1. This can obviously save a lot of entering.) ValueCalc has two mathematical functions which can be used in formula cells; these are the sum of a range and the average of a range.

Spreadsheets can be saved to and reloaded from disk or they can be printed out on a Commodore printer.

The package includes three fairly straightforward sample spreadsheets — a car mileage calculator, an expenses record and a home budget manager. None of these is much use in itself but they do serve as examples for anyone learning the system. There is also an eight-page users' manual to guide you around.

Even bearing in mind that ValueCalc is a low budget item, I feel that it really is too primitive to be worth spending money on. If one were to use this product as it is presumably intended, frustration at its limitations would probably very soon set in. There are other products around which offers a great deal more sophistication at very little additional cost.

T.L.

Contact: Electric Distribution, 8 Green Street, Willingham, Cambridge CB4 5JA. Tel: (0954) 61258.

OPINION

Jeff Minter is on holiday so Zack Skinner is stepping into his shoes and taking just the opposite view.

Should I ask what's wrong with you or should I ask what's wrong with the companies that make the games you play? It may be my subjective impression but I think that games are getting more and more violent and there are many more of them. Or at least more of them simulating greater violence.

Oh yes, I know all the arguments about games only reflecting the violence that's already in society. That is the sort of weak reaction that is trotted out about football hooliganism but that isn't much consolation to somebody who doesn't go near a football match but has the bad luck to live near some football club's ground. And it can't be much of a consolation to the families and friends of the people who were shot down by the homicidal maniac Michael Ryan in Hungerford a short time ago. Society may be getting more violent but it might be reflecting what each of us thinks or does too, not only the other way round. And playing computer games may not be any more anti-social than any other sport or pastime but its going to have at least a subconscious effect on people who take part in it especially day after day as most of us do. I think the effect must be dehumanising. Take a look at the charts. Last Ninja, Barbarian, Death Wish, Exolon, Living Daylights, Renegade, Megapocalypse, even Gauntlet still up there after months, it seems like that when a software company doesn't know what to do to earn some quick cash it says to its programmers "Shoot something!"

Jeff Minter who usually has this page is, of course, an avid fan of the kill anything style. He writes great games like that too. But when he complains, as he did last month, that the Americans are going soft because they aren't creating terrific shoot 'em ups as they did before.I hope he is a voice crying in the wilderness. As a games reviewer I'm well aware of the attraction of the easy satisfaction you get from exercising your trigger finger, your fastest reflexes whether its blowing apart dangerous aliens or simply kicking muggers to pieces, Renegade style. Yes, I know that the games houses say that these are not real people on the screen just electronic blobs. I also know that someone said that you couldn't send a girl on a mule one mile safely alone in the Middle Ages. So what? Because medieval society wasn't safe is it necessary for us to encourage people to think that violence is natural a part of everyday life in the present too?

If violent films and TV are not thought good for the impressionable — and let's face it we are **all** impressionable — why should simulated violence on the computer screen be all right? Okay, at the moment, it may be that the killing looks like it's taking place among matchstick-style coloured electronic drawings but it's not going to be long — there's something in last CCI on CD Video which will bring arcade quality games and better onto **your** screen soon — before what you blow apart will look like the movies in its computer-created reality. And then are we going on needing our daily fix of Clockwork Orange style personal mayhem? Are the games houses going to say it doesn't matter because it isn't really real?

There is some credit to be given to games manufacturers who take another tack. The World Leaderboards and Marble Madnesses can provide just as much entertainment. I have to confess that those are the things that I stick to reviewing. There's just as much challenge in them and they last longer in my opinion. But whenever I mention this to some people though they just say "Boring" and turn their noses up. It seems to me that they are like the kids who sniff glue — anything for a quick thrill. They've not got much more sense than them either. They just want mindless and superficial "fun". Well, there's nothing wrong with having fun but if it has only to take the form of bodies being blown apart, heads rolling across the ground and nothing but pumping bullets at something then, then it's a pretty poor lookout for the rest of us when those people get into situations of real conflict.

Most people like that are kids of around 13 or 14, maybe they might grow out of it. But what about the people who run the companies that give them that stuff? What goes on in their heads? Or does the fact that they make a mint mean they make sure they don't care?

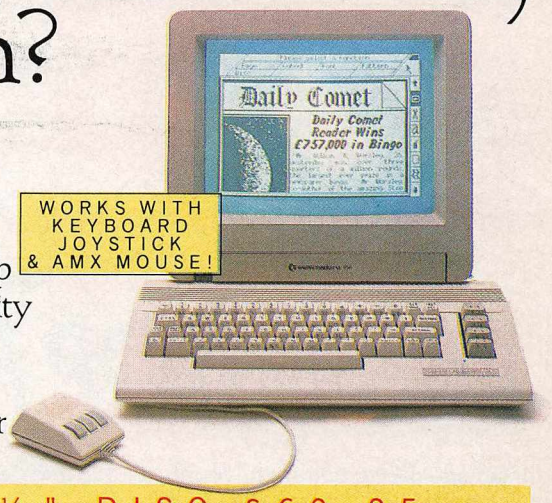
At least in places like the U.S.A. and Germany, those sort of games are either thought to be cheap and nasty and don't get a big reception or actually banned. Football hooligans . . . violence in the streets . . . TV and films . . . blasting your enemies off the screen . . . no, of course there's no proof to connect them but I think you'd have to be blind not to see that there is a connection, and that we'd better start thinking about it now before it gets too late.

Z.M.S.

Stop Press! What's so special about The Amiga, The Mac, The Atari St., Windows and Gem?

It's no surprise that nearly all new 16 bit 'state of the art' micros now come with a Mouse and Wimp environment (Windows, Icons, Menus and Pointers) as standard.

With the COMMODORE 64 you already own one of the classic micros and by simply adding the 'AMX Mouse' and 'Stop Press' you can achieve the same ease of use, freedom and versatility of much more sophisticated computers.



The AMX Mouse with Desktop Publishing software – it's what you and your COMMODORE micro have been missing!

AMX MOUSE PACKAGE 5¼" DISC £69.95

STOP PRESS & CONTROL (ONLY) **£39.95**

There's not much joy in a joystick and keyboards can be all fingers and thumbs. Acclaimed by the press as 'the best input device', already over 50,000 micro users have adopted an AMX Mouse. The AMX Mouse combined with Stop Press puts you right at the heart of the desktop publishing revolution.

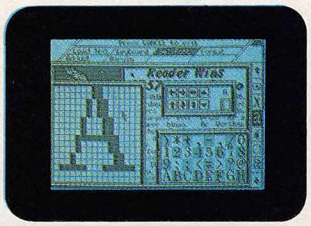
At long last you can produce newspapers, posters, leaflets, notices and handouts in your own school, home or office. We're not talking about amateurish results, but extraordinarily professional work with crisp text and exciting graphics. Available for the Commodore 64, 64c and 128.

MENU DRIVEN PROCESSOR

Provides easy access to all the 'Stop Press' modes. A comprehensive and versatile filing system that makes management a joy! Powerful graphic and full proportional text options enable you to give your documents the professional look with the minimum of effort. Allows windowing, copying, re-scaling, and all the printer options at the touch of a button.

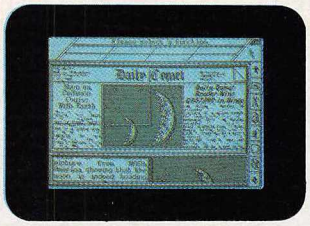
FONT AND PATTERN DESIGNERS

Allow your creativity to really come to the fore. Use the built-in designer to create your own fonts or change any of the 50 fonts supplied. You can also design your own patterns to use with the amazing spray and paint options.



PROCESSOR ACCESSORIES

A fast preview facility that displays the full width of the document. Provides an ideal way of viewing the composition of your masterpiece. An innovative 'kwik-klik' window makes changing graphic options unbelievably easy. Allows full page scrolling with one click of the button.

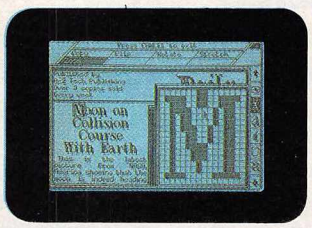


CLIP ART

Over 150K of clip-art is supplied with 'Stop Press' covering a wide variety of subjects including sport, music, transport, cartoons, technology, and a host of miscellaneous items. Alternatively areas of your page can be "cut" to disc, building into your own unique library of clip-art. Cut-outs can be "pasted" into any page, at any position, preventing the need to re-do headers and footers, etc.

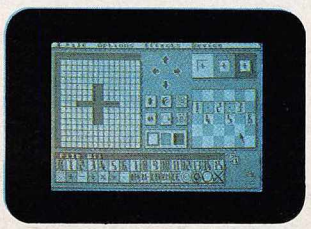
FULL PIXEL EDITING

The most advanced pixel editor available on the Commodore 64 is provided with stop press. Any area on the screen can be brought into close-up and altered. Intelligent continual pixel 'set/unset' and real time scroll, while zoomed-in, make this an extremely powerful editing tool.



MOUSE CONTROL SYSTEM + ICON DESIGNER

Write your own mouse driven programs using the powerful basic extentions. The Mouse control system adds over 30 commands to Basic, including Windows, Icons, Menus, Pointers, line drawing, memory load and save. The Icon designer is a sophisticated Icon editing program developed entirely using the extra commands provided by the Mouse control system and shows the high quality of program that can be achieved using this system.



This superb product is available now from all good computer dealers or direct by cheque, Access or Visa. All prices include VAT and post and packaging.

FOR INSTANT ACCESS/VISA ORDERS TELEPHONE (0925) 413501/2/3

AMX SOFTWARE

IMAGINATION AT YOUR FINGERTIPS

ADVANCED MEMORY SYSTEMS LTD. 166/170 WILDERSPOOL CAUSEWAY, WARRINGTON, WA4 6QA. TELEX 628672 AMSG. FAX 0925 58039.

TUBELINK ON PRESTEL PAGE 2582182 SUPPORTS THE AMX MOUSE AND ALL AMS SOFTWARE

Macintosh is a licenced trade mark of Apple Inc. Atari St. is a trade mark of Atari Inc. Amiga is a trade mark of Commodore Business Machines Inc. Windows is a trade mark of Microsoft Inc. Gem is a trade mark of Digital Research Inc.

CCI READERS OFFER

SAVE £10!

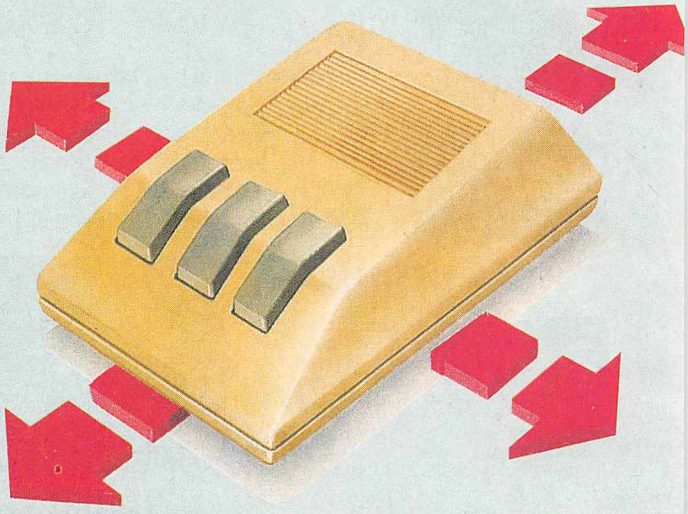
ON THE AMX MOUSE + STOP PRESS DTP PACKAGE

You can add power control to your 64 or 128 and get a Desk Top Publishing system for only £59.99.

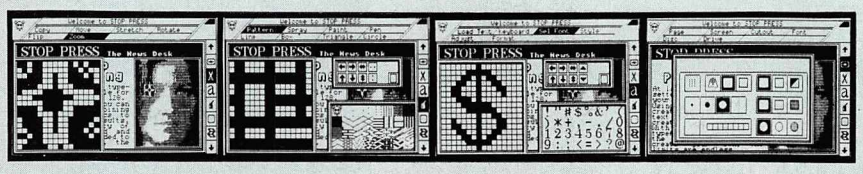
The AMX Mouse is an outstandingly effective and fun to use add- on to your 64 or 128. It gives you all the extra control and accuracy that a mouse provides. All the latest higher price micros, like the Amiga, use the mouse as their major control device. Now you can too on the 64 and 128.

The AMX Mouse has been highly acclaimed as one of the best in the world. When CCI reviewed it only last July, we said:

"We found it easy and pleasant to use. So easy in fact that although it has a solid 32 page instructional booklet for a manual, the manual was hardly necessary because once you start to put it into action the requirements become obvious and the hand falls naturally into its correct use."



STOP PRESS is a disk based, mouse-controlled Desk Top Publishing system. STOP PRESS lets you create A4 sized pages combining text with graphics to produce stunningly expert results. STOP PRESS provides you with a large variety of different fonts — typefaces that you can use in a wide range of ways. It also gives you the facility to create your own typefaces. STOP PRESS needs no extra equipment and comes as software on two disks. It works on a window system which makes it simple to learn and quick to use. With STOP PRESS you can create your own newspapers, magazines, posters, leaflets, letters or virtually any own kind of professional looking document. You can save pounds and pounds on expensive artwork for printing by producing your own on STOP PRESS. In CCI's July review we said:



"The STOP PRESS utility is an interesting and useful addition and will be exceptionally useful for anyone who does ot own an art package or wants to find out how to use one."

You can buy the AMX Mouse together with STOP PRESS — or STOP PRESS alone, if you already have a mouse — direct from CCI READERS OFFERS at only £59.99 for the AMX Mouse and STOP PRESS or £29.99 for STOP PRESS alone. THAT IS A SAVING OF £10 ON THE USUAL PRICE FOR THE AMX MOUSE AND £10 ON THE USUAL PRICE OF THE STOP PRESS DESK TOP PUBLISHING SYSTEM.

The AMX Mouse comes with full instructions, in an easy-to-read user's guide, and simply plus into the joystick port of your 64 or 128.

STOP PRESS comes with two 5¼in disks — 1 System disk and 1 Font disk — and a simple guide to its use.

This highly attractive combination of AMX Mouse and STOP PRESS Desk Top Publishing system offers you a very low price entry into the exciting world of desk top publishing for the Commodore 64 and 128 computers.

Please make your order as soon as possible as supplies are limited.

To Commodore Computing International
40 Bowling Green Lane, London EC1R 0NE
I would like to order:

I enclose a cheque/P.O No _____

☐ The AMX Mouse and the STOP PRESS DTP package for the special price of £59.99 inc. p&p
or
☐ The STOP PRESS DTP package alone at the special price of £29.99

for the amount shown above payable to 'Croftward Ltd' or please debit my ACCESS account No.

Signature _____ Expiry Date _____

Name _____

Address _____

_____

Telephone Number _____

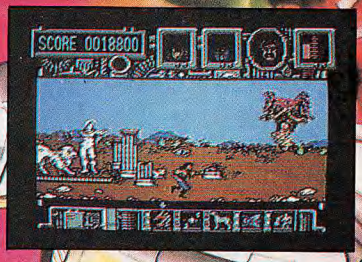
Please allow 28 days for delivery. ADD £1.50 P&P FOR ORDERS OUTSIDE UK AND EIRE

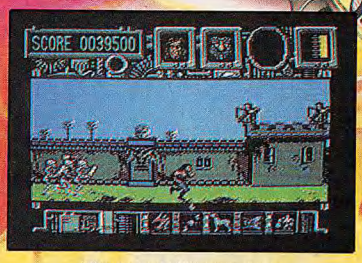
HYSTERIA

Sometime, somewhere, someone is changing the future by altering our past. A previously extinct primeval entity is being summoned forward through the barriers of time by a fanatical sect, whose aim is to disrupt the future balance of power.

As sole survivor of the once elite 'time corps' you have been chosen by the federation of law and order to thwart this evil conspiracy.

Once exposed the entity will be forced to make an appearance in that time zone in order to destroy you and the evidence, you must weaken the monstrosity and force it to retreat from whence it came and continue your task in another era.





* Commodore 64/128 screens shown.
Other versions will differ from these shown.

AVAILABLE NOW ON

Commodore 64/128
TAPE £8.95 DISK £12.95

Spectrum 64/128
TAPE £7.95

SOFTWARE PROJECTS

Bearbrand Complex, Allerton Road, Woolton,
Liverpool, Merseyside, L25 7SF.
Telephone: 051-428 9393 Telex: 627520

A S·P·E·C·I·A·L Development

AVAILABLE NOW FROM ALL GOOD COMPUTER OUTLETS

AWESOME

Hysteria

Software Projects

Hysteria, according to the dictionary, is "A nervous disorder of women, occurring in paroxysms, and often simulating other diseases".

This is quite a good description of the game from Software Projects of the same name.

In this, the latest and in my view, greatest game to come from Software Projects, you take the part of a topless muscle-bound hero, the sole survivor of the once elite 'Time Corps'.

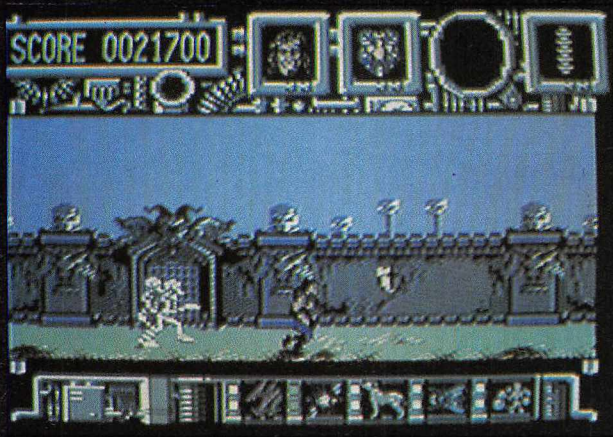
Members of a mad fanatical sect are dragging a previously extinct entity through time in an attempt to sieze power. Being the butchest good guy around, you have been chosen to avert this potential catastrophe.

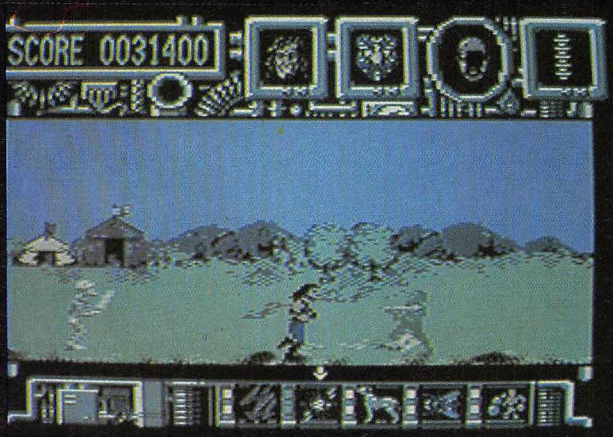
You start your journey through time in ancient Greece. As you would expect, between you and your goal are loads of hero-hating monsters. In the first time zone, these come in the form of horses, skeletons, winged goblins who lob rocks on your head, and centaurs. These all charge at you, draining your energy if they touch you. All the sprites in this and the other levels are large, and excellently drawn and animated. As you run along the horizontally scrolling landscape, small statues need to be collected to form a jigsaw puzzle of the face of one of the conspirators. When a complete picture of the face has been assembled, the entity shows itself, and you get a chance to weaken it and progress to the next time zone. The entity is in the form of a huge shaggy pink wriggly flying monster. A good few hits are needed before it retreats to another time zone.

As you fight off the attacking foes, more powerful weapons become available. You start with only a deadly short range brain wave that emanates from your forehead. This can soon be upgraded to a long range zapper. You can also gain the ability to fly with a jetpack, and a number of spheres that encircle the hero, killing anything that comes into contact with them.

There are three time zones in the game. After ancient Greece comes a European-looking scene in the middle ages, where crossbow-armed snipers, dragons, knights, and more skeletons and goblins. Finish this stage, and you are transported to a space age city. Here you meet a great number of spaceships, robots and bubbles.

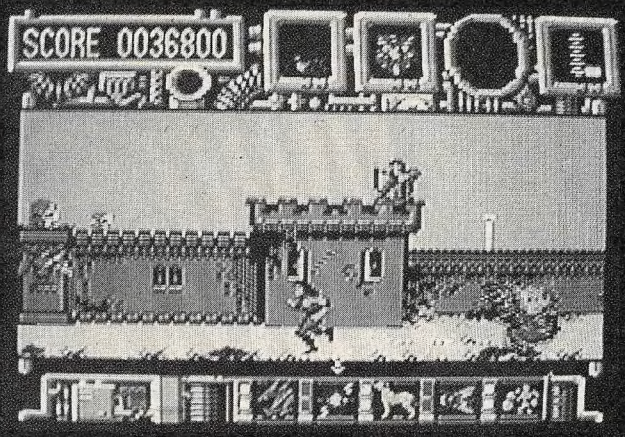
HYST

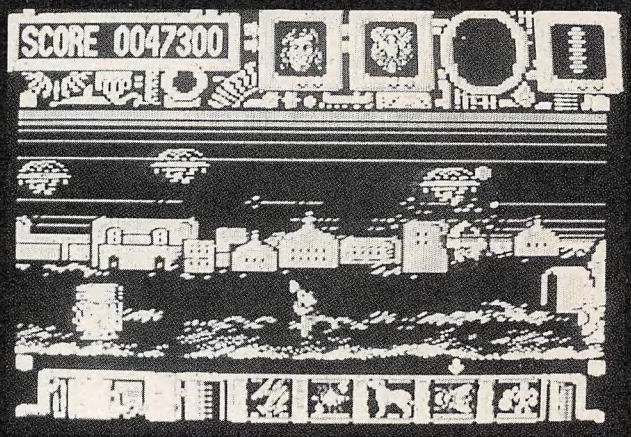




Hysteria, according to the dictionary, is "A nervous disorder of women, occurring in paroxysms, and often simulating other diseases". This is quite a good description of the game from Software Projects of the same name.

Hysteria





The graphics are excellent throughout the game, from the smooth parralax scrolling backgrounds and sprites, to the clever way of cycling through the letters on the high score table. The music is well worth a mention, as are the sound effects.

Hysteria is great fun to play, and aptly named, from the feeling of excitement when it's played. This is one of the few games which has great graphics, sound *and* gameplay. Don't miss it!

Graphics: ★★★★★
Sound: ★★★★
Playability: ★★★★
Rating: Awesome
Price: £8.95 (c)
£12.95 (d)

'OPINION'

Graeme Kidd, ex-boss of Zzap, Crash and The Games Machine magazines comes to CCI to take an independent look at the world of computer games and how it got to be the way it is today.

A year, it is said, is a long time in Politics. In the world of home computing, the average year is probably even longer... Graeme Kidd first started playing computer games for a living in 1983 when he worked on Central TV's MAGIC MICRO MISSION. Four years on, he reflects on some of the changes he has witnessed from the business end of a joystick. His opinions, of course, may not be those of CCI.

The Age of the Technician...

Computer games came into existence in the early seventies, when hundreds of basic chips were combined to produce simplistic bat and ball games. The foundations for the dedicated game console and the arcade machine were laid. At the turn of the decade home computers and games consoles began to arrive in the shops in their droves, but to begin with home computers were taken 'seriously'. Playing games was seen as a secondary pursuit, almost incidental to the serious business of getting to grips with the computer and learning how to program. Enthusiasts rapidly became computer-literate.

But what did they program? Space Invaders.

Thus began the era of the computer game, written at home by a talented individual, sold by mail order and duplicated in the living room as orders flooded in. Small, but respectable fortunes were made by the pioneers of entertainment programming who, by dint of innate talent and the good fortune to get hold of a computer shortly after its release, were able to satisfy the growing demand for entertainment programs. Home computers really caught on, and 'latecomers' preferred to buy a copy of Space Invaders for a couple of pounds rather than go to all the trouble of learning how to program and then writing their own version. Particularly so, when the 'pioneers' had leapfrogged into machine code.

Computer magazines were slow to catch on to these developments in the demand for software, treating games as a minority interest, almost too frivolous to deserve mention. They soon worked out that printing program listings supplied by enthusiastic readers was an economical way of filling pages. Even if most of these listings were listings of second-rate games programs, they surely had an educational value?

During 1982/3 things began to change. A handful of programmers had started to make names for themselves. We weren't talking stretched limos and universal acclaim — this is not, has never been and never will be the pop industry — but characters like Jeff Minter began to build up quite a following. And suddenly Liverpool was the centre of media attention as masters of hype, Imagine, promoted their programmers as mega-stars and promoted their games in a whole new way — full colour inserts backed by colour posters, full page adverts in computer magazines and the hard sell into computer retailers all characterised an Imagine release.

The better programmers realised that they could make a good living by writing games and gave up their 'day jobs'. 'Professional' marketing men entered the arena to promote the product and make money for themselves, and while companies like Llamasoft, Hewson Consultants and Incentive continued to grow from their programming roots, publishers like Richard Branson's Virgin empire stepped in, realising the money-spinning potential of the new medium. Other corporations joined in the action.

But what has happened to the games themselves in the past four years? Pundits claim that the industry has matured, by which they probably mean that the last few charlatans have finally gone bust and that the creative output of programmers and game designers has been firmly corsetted in the straightjacket of formal distribution channels. If your latest mega release doesn't have an advertising budget of tens of thousands of pounds to support it and a slot on the shelves in WH Smiths and Boots, you might as well give up, go home and start living off the land. Gameplay and creativity have become secondary components of the "marketing mix".

The quality of games, in terms of presentation, has continued to advance, and programming techniques have improved dramatically. Nowadays there's no way a programmer can go solo and write a hit game directly on the object computer — a development system is the minimum requirement, and few programmers work in isolation. Games

designers, graphics artists and musicians are generally required, as well as a publisher to buy the rights to a character or arcade game in the first place. Nowadays writing computer games is big business — you need around $100,000 to play with if you're gong to pay the wages of a programming team for six months, provide premises and the licence and then follow up with glossy packaging, telesales and a serious advertising budget.

And people's tastes have changed. Simple, but maddeningly addictive, games like Incentive's Mined Out no longer pass muster. Aided and abetted by frantic, full-colour hype, it is the arcade conversion or licensed tie-in that dominates the full-price charts. Music, code and graphics have become the preserve of the team-oriented technician and much of the creativity seems to have evaporated. Originality is at a premium — once a 'new' type of game appears, a host of clones follows and publishers seem largely content to follow the creative lead provided (rather expensively) by arcade companies.

The computer entertainment market is led by action games, dominated by shoot 'em ups and arcade conversions which may or may not involve thinking. Not surprising really, as other entertainment

'OPINION'

media including radio, TV and newspapers are dominated by easy-access products that follow a familiar format.

For the thinkers, there are strategy and adventure games. While they have achieved a comfortable niche for themselves, more involved games have yet to establish themselves, in the UK and are certainly far behind achieving the dominant position they enjoy in the American market. Games like The Fourth Protocol and the soon-to-be-released Hunt For Red October cross the barriers that separate the purist strategy/-simulation/adventure game from popular appeal, and once programmers and publishers begin to exploit fully the capabilities of 16 Bit hardware, complex yet accessible games may well begin to gain ground over reaction games.

Technicians are producing the conversions and the licenced product and their output dominates the market. There will always be room for another elegantly executed shoot 'em up or accurate, playable arcade conversion — and there will always be a new batch of youngsters entering the mass market, looking for straightforward, fun games. With a few notable (and heavily plagiarised) exceptions, the technical improvements haven't been matched by corresponding improvements in gameplay, concept or creative input. The production line has overtaken the master craftsman.

Attention CBM Adventurers!

INFOCOM
SSI MICROPROSE
MINDSCAPE DATASOFT
MICROLEAGUE SPORTS AVALON HILL
BRODERBUND ACTIVISION
ORIGIN EPYX SSG
SIMULATIONS CANADA SUBLOGIC
ACCOLADE ELECTRONIC ARTS
DKG ACCESS
SIERRA

Wargames Adventure Simulation Specialists!

Run by Enthusiasts for Enthusiasts!

We Stock:
Atari/520 : Apple
Commodore/Amiga
IBM/Amstrad PC

Mail Order Anywhere or Visit Our Retail Store
Send £1 for Catalog (Refunded with 1st Order)

VISA — Apologies for Delayed Opening — MASTERCARD

COMPUTER ADVENTURE WORLD
1A Charing Cross, BIRKENHEAD L41 6EJ, England
Telephone: 051 666 1132 (Mon./Sat. 10am-5pm)

LOOK FOR THE PLAIN PACK . . .

THAT PACKS TWO PLANES!

Developed from 'Double Phantom' on the BBC, as seen on 'Micro Live' TV.
Runs on single or linked C64's.
(Link cable voucher with program)

£9.95 Turbo Cassette C64
£11.95 Disc C64

twin tornado
THE WORLDS FIRST FLIGHT SIMULATOR WITH MULTI-USER OPTION

Locally, or direct, first class post free.

PHONE 24 HOUR **0903 776000** ACCESS/VISA

OR CHEQUE/P.O. TO P.O. BOX 66
EAST PRESTON WEST SUSSEX BN16 2TX

DOCTOR SOFT SIMULATIONS

C64

IFFY

Classic 1 — The Edge

Most compliations contain a higher percentage of good games than bad, or at least enough to make them worth their while. Classix 1 unfortunately only contains one such game, that being Bobby Bearing. The other games would hardly warrant more than one go. These are Quo Vadis, Brain Bloodaxe, Firequest and Wizardry.

Bobby Bearing is a flip-screen Marble Madness Variant in which you take on the task of rescueing your fellow bearings. Converted from the original spectrum version, the graphics are in one colour on a black background, identical to those of the original. The disk version has a jolly piece of music, but when first released, the tape version was silent. A fun game with some nice touches like the rolling effect of Bobby.

Quo Vadis is one of those games that make you glad it's 1987, because a game this bad would never be accepted by any decent software house now. Unfortunately, this jerkily scrolling platform game has risen from the dead on the compilation. The background graphics are plain, sprites. Simple, and there's a distinct lack of colour. A tune to match annoys the player even more. Not a good 'un.

Brian Bloodaxe, a game that was said to make Jet Set Willy look like Wet Set Jelly, is an old platform game. Again, identical to the spectrum version even down to the flicker of the sprites. Brian, a shaggy viking with a horned helmet has to jump around the many screens, using various objects to open gates, blow up walls etc. Whilst avoiding the deadly flicker of the baddies. A lot better than Quo Vadis, but very dated.

Firequest, the sequel to UGH (not a game worthy of a sequel in my view) has you as UGH, surprisingly on a quest for fire. Dodge the spiders and negotiate the ladders to get to the swinging vines, Tarzan style it across the screen, and it's on to the next. It may sound exciting, but exciting it isn't. Basic graphics, sound and game make it boring to play very soon.

Wizardry isn't as bas as the last three. It's a scrolling 3D Arcade adventure in a similar vein to fairlight. Exploring a large castle, you encounter spiders, devils and other such yukkies from the underworld. Although not as detailed as fairlight, it's nice to see the multicolour mode in use. Arcade adventures will find plenty to keep them going, that is if they don't tire of it too soon.

Compared to other complications, Classix 1 doesn't come up to scratch with older games of poorer quality. Compilations are great for the new computer owner, but there are far better ones around than this.

Price: £9.95
Rating: Iffy

MEGA

6 Pak Volume 2 — Elite

This is the latest 'Hit Pak' (note the absence of a C for added impact) from Elite. The compilation contains five hits from the past, and a new title, Batty. As Batty hasn't been released before now, we'll take a closer look at it than the others.

There's no getting away from the fact that Batty is little more than an Arkanoid copy, but that needn't be a bad thing. The only real difference is the two player mode. When played in two player mode, a central division separates each player's area. This is a wall that extends a little way up the screen. The idea of the game is to knock out all the blocks in each court before moving on to the next. This is done by bouncing a ball off a bat to hit the blocks. Let the ball pass behind the bat and you loose a life.

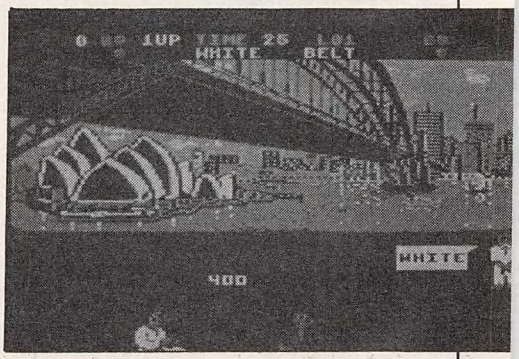
Some blocks, when hit, turn into objects such as hands, money bags, or a skull and cross bones. It these are caught by the bat, depending on the object caught, the ball might split into three, points may be awarded, a laser to shoot the blocks, or a rocket to advance to the next screen could be yours.

The graphics are colourful and move smoothly, and a good number of sound effects are up to scratch. Played in one player mode, the game is almost identical to Arkanoid, but the two player mode adds an original and enjoyable twist. I wouldn't go batty about this on its own, but it's well suited to this compilation, keeping the overall quality high.

Among the previously released games on the compilation is International Karate. This was thought by many to be the ultimate karate game, until word of International Karate 2 got out. It is without doubt still the best straight karate game about at the moment, boasting eight different backgrounds (four in each load), large, smoothly animated characters, great music and sound effects, and bags of punchability. Unoriginal it may be, and most will already have this or a similar game, but it's great fun.

FTL's first releases are both on the compilation. The first, Shockway Rider, has you as a youth of the future attempting to go 'full circle' on the conveyor belt like walkways. This involves riding the three walkways which move at different speeds, survive all districts of the city and your goal is complete. To obstruct you there are static obstacles and nasty futuristic football hooligans. These can be delt with by a swift smack in the chops or a well aimed brick to the head. The multi-speed scrolling works very well and changes speed smoothly. The sprites have a cute rabbit-like look about them. An appropriately boppy Rob Hubbard piece plays as you do. Not much variety, but a lot of fun.

Lightforce, FTL's second, is a vertically scrolling space shoot 'em up. The game takes place over four levels. These are made up of a variety of aliens attacking over space scenes and galactic



structures. As you make your way on into the universe, the aliens rain down onto your ship. These must be dodged in the usual fashion. Lightforce is well written, with fair graphics and a rather tame Hubbard tune. The game doesn't add anything to the hundreds of existing shoot 'em ups, but will give fans of this type of game some enjoyable hours of blasting.

To add a bit of variety to the compilation, ACE is included. This is the forerunner to ACE 2, reviewed last issue. ACE is a flight simulator in which you attempt a number of missions in an all weather all terain combat aircraft. You can chhose to battle for air superiority, a ground or naval attack, or play a multi-role.

If you've played ACE 2 and wanted a more realistic flight sim in the way of ground features and take off sequence, then this will be well worth your while. The plane is fairly manoeuvreable, and realistic dog fights can be fought.

Elite's past compilations had a good selection of quality games, and this is no exception. Assuming you don't own these games already, this is a great buy, and well worth the money.

Price £9.95
Rating: MEGA

MEGA

Ten Great Games — Gremlin

As you must have guessed from its descriptive title, this compilation is made up ten games. Some great, some not so great. The games are as follows.

'Avenger', the first is a Gauntlet/ Druid style game with ninja overtones. Your father has been assassinated and you must recover the scrolls stolen during this murderous deed. Exploring a colourful scrolling area of countryside and mazes. Lots of nasties lock on to you and must be splatted with a throwing star, or kicked.

Graphics are colourful, music suitable, but the gameplay adds little to the wealth of similar games around. Not a bad game by any means.

'Future Knight' takes the Ghosts 'n' Goblins theme into the future and exchanges the graveyard for bas-relief platforms and ladders, and lances for lasers. The idea is to find the robot at the end of each level and make your way to the exit to the next level. Acid pools and robots get in your way and must be shot.

Unfortunately, Future Knight is slightly lacking in excitement and variation. Scrolling is smooth, and there are some nice sound effects, but all the sprites are the same colour, and the game gets a little boring, though I'm not sure why.

'Krakout' is Arkanoid turned on its side. You know the story, bounce the ball off a bat onto bricks, occasionally hitting aliens and acquiring various gadgets to make life easier. A good amount of options are available, with the choice to play from the left or the right. For someone who hasn't played any of the Arkanoid type games recently, Krakout could give some good entertainment, but it could do more to excite the experienced game player.

'Bounder' is a highly original vertically scrolling game set high in the sky. The idea is to navigate your bouncing tennis ball across the many levels of platforms, walls, teleports and numerous baddies amongst other things. The screen scrolls at a constant rate with a nice parallax effect of the ground below. A bouncy tune play along with the action and the sprites and backgrounds work well. This is my favourite game on the compilation, although I was surprised at how quickly I tired of the game after its original release.

'Footballer of the Year' is really Football Manager with a bit of joystick action. You manage your team and must attempt to win the title of Footballer of the Year. As well as all the tactical decisions you'd expect to have to make, you have chance to score goals in the matches. This sequence is a simple aim and shoot task, but involves a fair amount of skill. I find these games boring, but know others feel differently. Footballer is a good game of its type which will appeal to football fans.

'Trailblazer' is a similar game to Bounder in that you control a bouncing ball, attempting to complete all the courses of platforms and gaps. The course is viewed from behind the ball in 3D. Each course consists of different coloured squares and gaps. The colour of the square you bounce on will determine what happens to it. It may bounce higher, slow down, speed up, or even reverse the controls. Trailblazer has a two player mode using a horizontally split screen for each player's view.

Colourful graphics and lively music complement an equally colourful and lively game.

'Highway Encounter' is a conversion of the old Vortex game originally written for the Spectrum. The idea is to get to the end of the highway and put an en to the alien invaders. The highway is displayed in 3D similar to that of Head Over Heels. You control the leader of five robots which will travel in a straight line, sometimes straight into an alien, unless you stop them. These are your back-ups for when you get the chop. It's a nice change to see the monochrome graphics from the Spectrum version enhanced with colour, something which would be more than welcome in other such games. Highway Encounter is an original game wth a strong pull that keeps you coming back to clear another screen.

'Monty on the Run' is the third Monty platform game, Wanted Monty Mole and Monty is Innocent being its forerunners. In typical Monty fashion, the game involves leaping from platforms, dodging abstract sprites and collecting objects, money in this case. This was one of Rob Hubbard's first widely recognised masterpieces. The graphics are all hi-res backgrounds and sprites, but work very well. There is also an adventure element. Before starting, a survival kit must be made up of a number of objects which are essential to the completion of the game. Platform games are old hat now, but this has to be one of the best ever released and is still good fun now.

'West Bank' has you as a bank security officer. This is no ordinary high street listening bank, it is set in the wild west in the days of Champion the Wonder Horse. Three doors continually open and close to reveal customers and bank robbers. Quick reactions are needed to sort out the good from the bad. Kill an innocent customer or fail to shoot a baddie in time and you lose one of your three lives. Each character is very colourful and large, drawn in a cartoony style. The simple gameplay is good fun, and will appeal to fans of the coin-op Hogan's Alley.

'Jack the Nipper' is a little rascal. All he wants out of life is to cause as much trouble as possible. With all the social worker types about, it's hard to find something naughty to do. Everything is hidden or out of reach, but with a bit of thought, much mischief can be had. Mums, dads, and other do-gooders must be avoided at all costs to prevent a nasty nappy rash. Graphically this is pleasant, with characteristic sprites moving over hi-res backgrounds. The music is OK, but gets annoying quickly. An original arcade adventure which will give a fair few hours of fun.

Although none of the games on this compilation are particularly outstanding by today's standards, the number of them for a tenner make it excellent value, and a great buy for anyone new to 64 computing.

Price: £9.95
Rating: Mega

EARTH ORBIT STATIONS

The Federation of Earth Orbit Stations (EOS) welcomes you to the exploration and development of the solar system. You and up to three others have been chosen from among your fellow graduates to assume the roles of Space Directors. Your goal is to build space stations, conduct research programs, market your products and compete against each other in an effort to expand the wealth, technology and knowledge of the human race. There are a number of specific missions to undertake ranging from pure research to the search for life in the far reaches of the cosmos.

Well that is the introduction to the game... not really a game but a real space race simulation. The latest space news is that of a Russian cosmonaut who has spent a record breaking several months circling around the earth in what must be a very cramped space station. The USA have plans to build extremely large and complex laboratories in space. Some of these plans are well-publicised from producing complex alloy metals in earth orbit to building settlements on Mars.

This simulation comes from Electronic Arts, who have in recent months, released several very good and well presented packages on the UK game market. The graphics screens are very neat and easy to get assustomed to. Joystick movement of the icon to access sub menus and positioning of modules on to your station etc. is made quite simple.

You have a choice of competing aganst friends or the computer. There are seven missions possible to undertake. Each can take a minimum of 2 hours to complete, so on these long winter evenings why not take up the challenge of "Space... the final frontier".

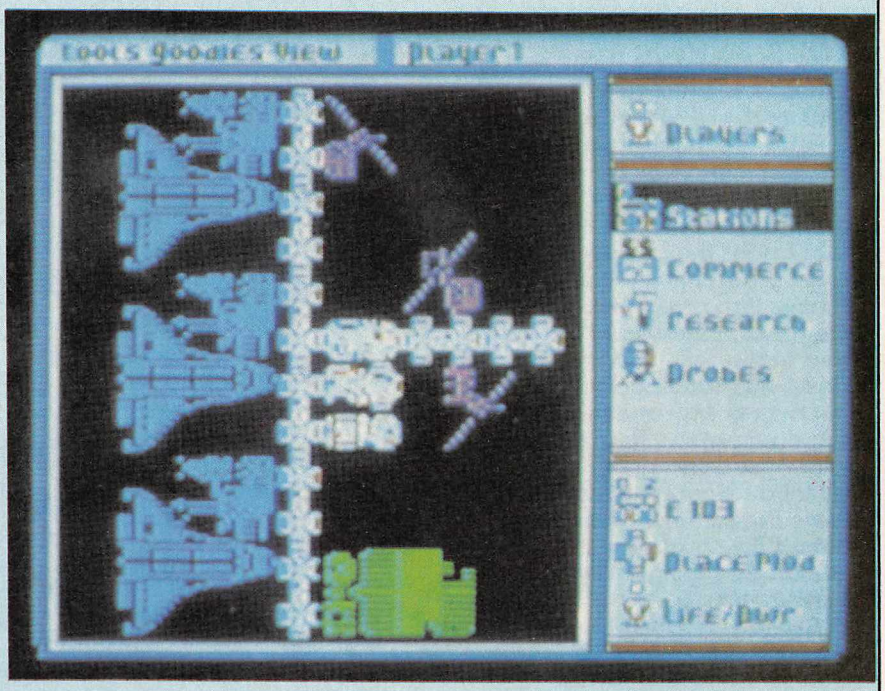
Each space station is constructed using money put at your disposal at the start of the game. These are built by piecing together modules of varying descriptions a bit like Lego! Each station must be built around a command centre and logistics module. Using connectors you could add on as many different laboratories, telescopes, weather centres, hospitals, dry docks, shuttle ports or life support modules etc. as your income can afford. The idea is to buy and sell or produce your own commodities by watching market trends. You must start with a sound economic base. Without this, as with a real project, your future as a Space Commander is doomed to failure.

The game starts in the spring of 1996, each 'turn' takes you forward one fiscal quarter, the length of each mission you decide to undertake varies with each scenario. It reminds me a little of what space 'monopoly' would be like. A game for real capitalists! I found by watching what decisions were made when playing against the computer in the first instance, an easy way to learn and see how best to play the game. It was, I must admit, not easy to win but as your experience builds so do your space stations.

Long live space exploration. I have learnt a great deal about research and technology just by playing this game... or is it an educational program? Try this one for yourself. You could learn the meaning of life the universe and everything and get the same answer as I did... 42!

B.C.

Price £16.95 (d)



You have found treasure beyond your wildest dreams

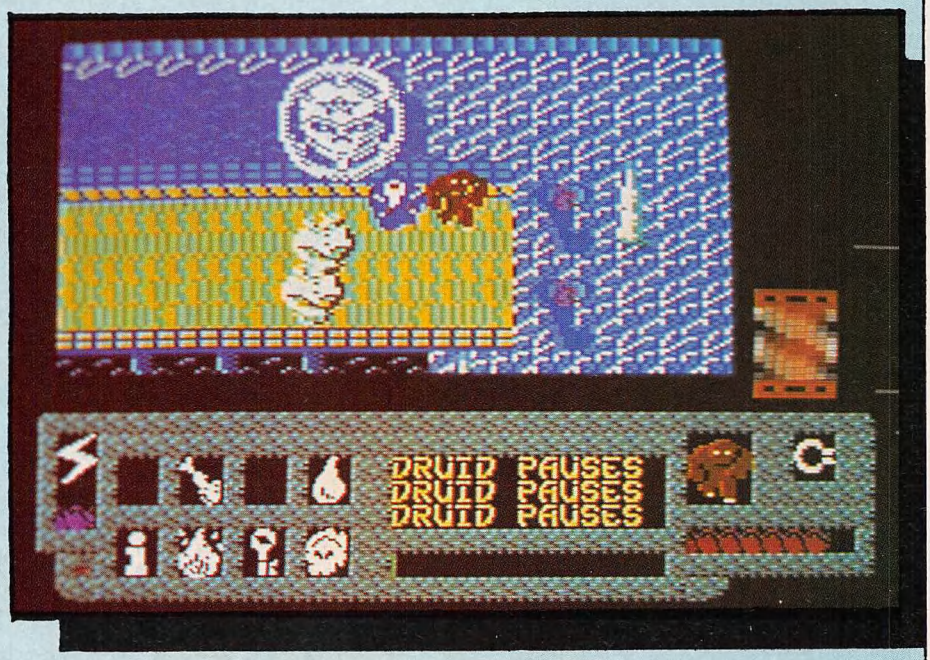
A classic compilation of software's greatest hits. GAUNTLET ... this No.1 smash hit recreates all the excitement and gameplay of the arcade sensation.
ACE OF ACES ... a magnificent and enthralling blend of flight simulation and arcade "shoot 'em up" action.
LEADERBOARD ... "the sports simulation of the year, if not the decade, that makes all other Golf simulations look clumsy" Zzap.
WINTER GAMES ... an outstanding location for a competition, a superb combination of testing events, an unrivalled classic No.1.
INFILTRATOR ... action, strategy and simulation in one spy action thriller, "Like being in an action film" Sinclair User.

U.S. Gold Ltd.,
Units 2/3 Holford Way,
Holford,
Birmingham B6 7AX
Tel: 021 356 3388

CBM 64/128	SPECTRUM	SPECTRUM +3	AMSTRAD
£9.99 TAPE £14.99 DISK	£9.99 TAPE	£14.99 DISK	£9.99 TAPE £19.99 DISK

C64

CRISP



Druid II 'Enlightenment' — Firebird

When Druid came on the scene, the Gauntlet craze was just beginning. It was the first recognisable Gauntlet style game. Since then, many Gauntlet games have come and gone, and just when it seems to be dying down, Druid II comes out.

After wading through the long-winded instructions/story, you realise that Druid II is really more of the same. The basic idea is to rid the land of the Acamantor by casting the White Orb spell.

You start in the land of Belorn. Belorn is made up of ten areas of contrasting scenery. Once past these, you can enter the Acamantors tower. The top half of the screen portrays the action, with the status area at the bottom. Each land is made up of everyday land features that form a maze of sorts.

Of course, there are the baddies to contend with. These vary according to the area, from zombies, to trees, and lots more. You begin armed with a store of electrical charges which deal with zombies OK, but other nasties can be more tricky. Around the land you find spells. Cast a spell, and you could have a re-filled stomach, a wall of fire, or a Golem amongst other things.

The Golem is an idea carried on from Druid. He is a big clay monster who acts as a body guard. He can be controlled by another player, or by a confusing keyboard method. Incidentally in the 'not many people know this' category — a golem is an historical Czechoslovakian invention that could only be controlled by a virtuous person — which rules out most of you!

The graphics are in the same style, with colourful backgrounds and agreeable sprites. The title screen music is nothing special, but suits the game. Sound effects are rather simple.

Druid II is bigger than Druid, with more spells, but the game plays in a very similar fashion to its forerunner, the only real difference being the layout of the landscape.

Fans of Druid will no doubt enjoy this, but I can't help feeling there's been little real progression, although it is unquestionably one of the best game of its kind. Give it a go if you don't already have enough of these games.

T.H.

Price: £8.95 (c) £12.95 (d)
Graphics: ★★★★
Sound: ★★★
Playability: ★★★
Rating: Crisp

THE ACTION—SIMULATION

AIRBORNE RANGER™

You are one of the elite . . . parachuting alone behind enemy lines. The enemy controls the terrain, hidden in bunkers and machine gun nests . . .you may be surrounded. The action is fierce as you control one soldier's battle against overwhelming odds. You'll need skill and strategy to outmanoeuvre your enemy, plus courage and some luck to make your escape. Airborne Ranger is an exciting fast-paced simulation with 12 desperate missions in 3 different regions of the world. The possibilities are endless!

AIRBORNE RANGER. A challenging combination of danger and suspense. Available for the Commodore 64/128K. Cassette £14.95 Disk £19.95.

MICROPROSE
SIMULATION • SOFTWARE

Please send _____ copy/ies of Airborne Ranger CBM 64/128 ☐ Cassette £14.95 ☐ Disk £19.95 ☐ Further details.

Name (block capitals) _____ Address _____

_____ Post Code _____

I enclose £_____ including 55p P+P. Cheques payable to MicroProse Software Ltd,

or debit my Access/Visa card. Expiry date _____ No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.

Reviews

Micro Rhythm + — Firebird Silver Range

This is the follow up to the very successful Microrythm, and again, as its predecessor, represents excellent value for money. It has now incorporated many new features, as well as retaining its old ones. Now instead of just one set of sound effects, there are four — each coming in separate loads.

The first side has two more usual rhythms these are Microtune and Microlatin which contain sampled drum beats, claps and cymbals. For £1.99 these alone would have been good enough for me — even singly — but Firebird have surpassed themselves this time. They have put in digitised speech, and Microdisco, which has some very impressive electric guitar sounding effects.

This tape is great fun to use and you can even make up your own tracks and save them. If you've ever fancied yourself as a bit of a musician, give this one a whirl — you can't lose at £1.99.

Value Rating: 9

Power Pack —Audiogenic

Audiogenic have decided to release a compilation pack of four games, that were previously sold singly, a year or so ago. These games are Kaktus, Leapin' Louie, Chip Factory and Tomb of Tarabash.

Tomb of Tarabash is an exploration shoot 'em up with a few smal puzzles thrown in for good measure.

No sooner do you enter the tombs, than you realise there are all manner of booby traps, dead ends, mummies and other deadly creatures out to stop you. You're going to have to be very accurate with your trusty blaster if you're going to survive this game.

It was last year, one of the best games around. Nowadays, at budget price its still a good game, — certainly worth at least a few days playing time.

Leapin' Louie is another golden oldie and has a similar graphics style to Tomb of Tarabash — both have stick-like figures and colourful graphics and good animation.

The rooms are full of robots and traps and you must avoid these to get through to the shuttle bay and escape to safety. The rooms are connected by a series of teleport machines which need to be powered before they will work.

You get three lives, and an extra one, every 10,000 points, which is a big help as it takes a while to get used to negotiating each room.

The music is loud and wacky and I find that this game is very enjoyable to play, it has just the right mixture of playability and difficulty to keep you trying again and again.

You have to risk your life to save some cacti-can you believe it? The only way to save the cactus is to strike at your enemies first. This means you must shoot, from your underground hideout, eliminating the wasps and hornets before they can bite your beloved cactus. The hornets and wasps look the same, except that they have darker heads, but they are twice as dangerous, because it takes two shots to kill them and they take two bites from your cactus.

The game ends when you let the base of the cactus gets bitten away, or when the ground on either side of it gets eroded by the wasps acid drops.

This is a great game, though the graphics are pretty basic, it plays at a frantic pace.

Chip Factory is a platform type game. You play the part of Charlie — trainee accountant in a silicon chip factory, but he'd prefer to be on the work floor. So one night when everyone else has gone home, he starts up the production line — and all hell breaks loose.

As Charlie runs around the factory moving chips from one level to another, keeping the production line moving, he is hampered by bugs that run the programs in the chips, spanners that get in the works, and sparks of static electricity that cause everything to go haywire. If any of this stuff gets Charlie as the production line cuts out and if it happens too many times (3 to be exact) the line stops for good.

But don't worry too much, you can drop chips on the bugs, or spray them with a can of anti-static, which stuns them for a while — the can lasts for only 19 squirts, but can be replenished by 3 if you catch a letter from the word CHIP, and can be totally refilled if you get all four letters.

This compilation as a whole seems unimpressive but contains some good games, have a look at it — you'll probably be surprised how you enjoy it.

Value Rating 6/10

Arcadia World Championships

The recent PCW saw the launch of Mastertronic's new Arcadia arcade machines. Mastertronic have such faith in the Amiga, that they have used them as the basis for these arcade game machines. To publicise their launch, a competition was held between the English media and an all singing, all dancing team from the good old US of A, to find out who were the world champion joystick jockies. These Americans were going to be no push over (they hold numerous world records), but we had an expert team made up of Daniel Gilbert, Julian Rignall, Ian Machin, and me.

After warm-ups on both Road Wars and Rockford (an enhanced and very fast version of Boulderdash), we were ready for them. The real thing took place on the Rockford machine. After half an hour's tough, fast, sweaty-palmed gaming session, the teams retired to the dressing room to await the results. The result was, (of course!) a win for the UK team. The highest scorers of each team walked away with a Sega games system, and there was champagne for the Brits. All in all a very enjoyable experience, courtesy of Mastertronic.

T.H.

Preview The Future!

PROJECT: STEALTH FIGHTER

Stealth Fighter... the hottest topic of conversation in aviation circles today. Space Age technology and engineering make these aircraft virtually undetectable by enemy radar. Stealth Fighters are believed to be in operation, flying the most sensitive missions, flown by a superior class of pilot. You can experience that thrill of flying a revolutionary aircraft, previewing the edge of the future.

PROJECT: STEALTH FIGHTER. Another brillant simulation from MicroProse. Available for the Commodore 64/128K. Cassette £14.95. Disk £19.95.

MICRO PROSE
SIMULATION • SOFTWARE

Please send _____ copy/ies of Project: Stealth Fighter CBM 64/128 ☐ Cassette £14.95 ☐ Disk £19.95 ☐ Further details.

Name (block capitals)_____ Address_____

_____ Post Code_____

I enclose £_____ including 55p P+P. Cheques payable to MicroProse Software Ltd.

or debit my Access/Visa card. Expiry date_____ No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.

C64

Iffy

Solomon's Key — US Gold

This is US Gold's latest coin-op conversion from the original Tecmo arcade machine.

The game comes with hardly any instructions, but I gathered from what there was that the idea is to find the key to open the door to the next room, and ultimately find lots of treasure.

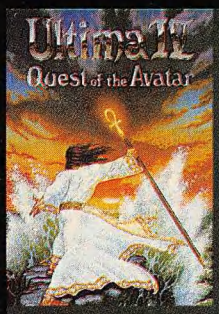
You take the control of a short fat character dressed in green, carrying a wand. Around the screen are an arrangement of stone blocks, some coloured grey, and some brown. Grey stones are permanent fixtures, but brown ones can be moved about. Waving your wand at a stone takes it, and waving your wand in a space drops one (ooer, sounds a bit rude!). Some nasties and yourself are affected by gravity. Because of this, steps must be built by manipulating stones, in order to move up the screen.

On each screen are a number of nasty sprites (nasty in every way including design), flames, bonus objects and a key. Collecting the key will open the door to the next room. Contact with a nasty or running out of time will cause a loss of life. About the only things on your side in the game are the fairy that gives you an extra life, and three fireballs which help ward off nasties.

Soundwise, Solomon's Key is OK, with simplistic jingles and sound effects.

I'm not too keen on this game. I can tolerate the average graphics and sound, but there just isn't enough to the game to give me the urge to keep playing. An arcade conversion it may be, but 9.95 is still a lot to pay for it, and this price seems more likely to be a reflection of the licence cost. Fans of the coin-op should give it a whirl, but I can't see many others raving over it.
T.H.

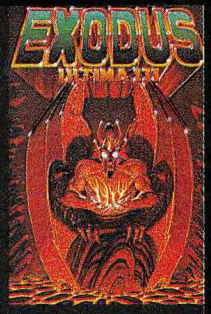
Price: £9.95 (c) £14.95 (d)
Graphics: ★★
Sound: ★★★
Playability: ★★★
Rating: Iffy



The latest adventure in the award winning Ultima saga

Ultima V

Warriors of Destiny



An Adventure of Epic Proportions

Origin Systems' Lord British, one of fantasy gaming's most imaginative and respected authors, brings you Ultima V: Warriors of Destiny, the latest in the award-winning Ultima series.

Over four man-years have been spent developing Ultima V, making this labyrinth of mystery and intrigue your greatest challenge yet!

The fantastic discovery of the new underworld entices Lord British from Britannia to explore the vast reaches of the unknown. Mysteriously, all contact with the good king and his companions is lost. In Britannia, fear turns to panic when the group's sole survivor returns with dreaded tales of the expeditions fate.

In a desperate call to arms you are summoned back to Britannia to discover the fate of Lord British and to defeat the self-righteous tyranny that is founded in misguided virtues.

The Ultima series of fantasy role-playing games, from Origin Systems Inc, is brought to you by Microprose Software Limited.

ORIGIN SYSTEMS INC.

THE START OF SOMETHING NEW

ULTIMA I: CBM 64/128 £19.95; IBM, APPLE £24.95. ULTIMA III: CBM 64/128, ATARI XE/XL £19.95; MAC, IBM, APPLE, ATARI ST, AMIGA £24.95. ULTIMA IV: CBM 64/128, ATARI XE/XL £19.95; IBM, APPLE, ATARI ST, AMIGA £24.95. ULTIMA V CBM 64/128 £19.95; APPLE £24.95.

Please send_____ copy/ies of_____ Format_____ Price_____

Name (block capitals)_____ Address_____

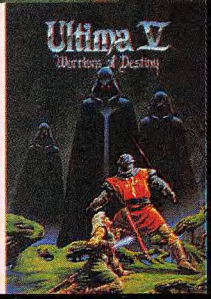
_____ Post Code_____

I enclose £_____ including £1.00 P&P. UK Only. (Overseas £2.00) Cheques payable to MicroProse Software Ltd.

or debit my Access/Visa card. Expiry date_____ No. | | | | | | | | | | | | | | | | |

For more information on the Origin range please tick box ☐

MicroProse Ltd., 2 Market Place, Tetbury, Gloucestershire GL8 8DA. UK. Tel: (0666) 54326. Tlx: 43422 MPS/UKG.



Each Ultima game is a self-contained fantasy, requiring no experience of the other Ultima games. For your copy or a free catalogue, complete and post the coupon to the address shown.

Mini Office II

6 powerful home and business programs in just ONE package – at a price that simply can't be matched!

Voted Business Program of the Year – 1985 AND 1986
Popular Computing Weekly

'This package is incredible value'
Daily Mail Home Computing Guide

WORD PROCESSOR
Compose a letter, set the print-out options using embedded commands or menus, use the mail merge facility to produce personalised circulars – and more!

SPREADSHEET
Prepare budgets or tables, total columns or rows with ease, copy formulae absolutely or relatively, view in either 40 or 80 column modes, recalculate automatically – and more!

GRAPHICS
Enter data directly or load data from the spreadsheet, produce pie charts, display bar charts side by side or stacked, overlay line graphs – and more!

DATABASE
Build up a versatile card index, use the flexible print-out routine, do powerful multi-field sorting, perform all arithmetic functions, link with the word processor – and more!

COMMS MODULE
Using a modem you can access services such as MicroLink and book rail or theatre tickets, send electronic mail, telex and telemessages in a flash – and more!

LABEL PRINTER
Design the layout of a label with the easy-to-use editor, select label size and sheet format, read in database files, print out in any quantity – and more!

DATABASE SOFTWARE
Europa House, 68 Chester Road,
Hazel Grove, Stockport SK7 5NY

ORDER FORM

Please send me Mini Office II for the Commodore 64/128

☐ £16.95 cassette
☐ £19.95 5¼" disc

I enclose cheque made payable to Database Software, or debit my Access/Visa card:

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Exp. date ☐☐☐☐

Signed .....

Name .....

Address .....

.....

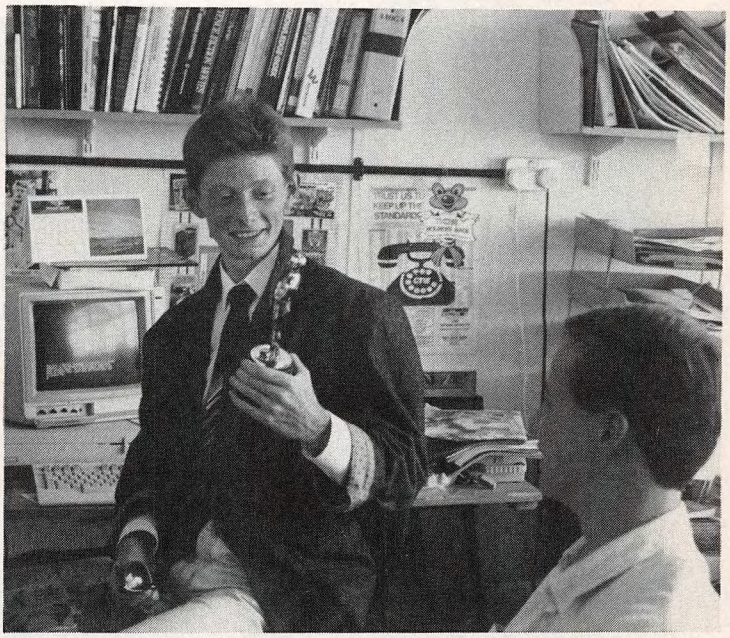
.....

ORDER HOTLINE: TEL: 061-480 0171

SEND TO: Database Software,
Europa House, 68 Chester Road,
Hazel Grove, Stockport SK7 5NY.

CC11187

SIMON NICOL GOES MEGA



Martech's Megapocolypse impressed everyone at CCI for its sheer sparkle and especially the thunderous sound effects. Simon Nicol who created the game came by to show us how you really get the best out of it. Tony Horgan gave him some coffee and asked questions.

TH: First things first, what did you do before Mega Apocalypse?

SN: Well, Crazy Comets, surprise surprise, antoher one that I'm going to keep anonymous. It was a personal favour. Do you remember Tornado Low Level?

TH: Yes, I liked that.

SN: I did the 64 conversion for Ocean. Before that, I wrote Mad Planets, another mega surprise!

TH: Something I'm sure a lot of people would like to know is how you got started in machine code.

SN: In those days of Purple Turtles and Quintic Warrior, you had to teach yourself, just trail and error. It took me about 11 months to get up to Crazy Comets standard. I started at school in the fifth year. I got into arguments with my teacher all the time, because he had a BBC and I had a 64, and all the 64 owners would be on my side and the BBC owners on his side, and I'd be their mascot speaking on their behalf, and the teacher just could do nothing.

TH: Sounds like you knew more about it than he did!

SN: As far as the hardware and programming is concerned, I did.

TH: That doesn't sound too unlike my own computer studies lessons!

SN: I did a maze game for a school project, then I started doing this game you've forgotten about by now, that was in the fifth year, and I lost out on school work a bit, and left just before going into the seventh year. Then I decided I was going into programming.

TH: So who bought your first game

SN: No-one, because it was such a rip-off of a recent arcade machine. None of the companies wanted to know, but Beyond nearly bought it three years ago. The contract was just about to be signed when this fat idiot came out with 'Oh you do know about the copyright on the arcade machine don't you?', so the whole deal was called off.

TH: Mega Apocalypse now. What made the game for me was the sound. Not just the music, but the whole effect of music, effects and speech.

SN: There was an explosion I had, not in the finished one, that was such a mega-big explosion that the whole monitor rattled! I've blown six 128D's up writing that game. To make sure that it won't crash, I left it on all night, and connected it up to the video. Then I can zip through the video and find out if and when it crashes.

TH: Could you let us in on how you managed five channels?

SN: Well, you can't keep a secret long in this business. It's a known fact that you can use a volume register for a fourth channel, but there is another register that you can use for speech and explosions. The trick of the speech is to keep it really fast, becaue it's so demanding on processor time.

TH: Will Mega be converted to any other formats?

SN: Yes, Spectrum, ST Amstrad and Amiga.

TH: Will you be doing any conversions?

SN: I'll probably be doing the Amiga version. I'll be excelling myself with mega-samples of course.

TH: What to the future then?

SN: I'm planning a game called Derek Bell's Le Mans, but there's not much I can tell you about that at the moment.

TH: It looks like we're running out of space, so I'll have to thank you for your time, and good-bye.

SN: And the same to you!

AMAZING!
TERRIFIC!
FANTASTIC!

The Book Offer of the Year!!

These Books usually cost from £2.95 to £9.95. Put together your own complete computer library with the compliments of CCI!

ANY **SIX** Books for **£10**

ANY **THREE** Books for **£5.75**

ANY **ONE** Book for **£2**

A **The Commodore 64 Adventure** — Solutions to some of the top most popular adventures for the 64. R.R.P. £2.75.

B **A Pocket Handbook for the C64** — contains all the vital information you need to understand the 64. R.R.P. £2.75.

C **Impossible routines for the 64** — Routines to make use of the hidden areas of the 64. R.R.P. £6.95.

D **Sound Effects and Music on the 64** — Explanations how to make all the 64 sound features work. R.R.P. £6.95.

E **Exploring Adventures on the 64** — How to write text-based adventures in Basic. R.R.P. £6.95.

F **Advanced Basic and Machine Code for the 64** — A clear guide to machine code programming with many program examples. R.R.P. £6.95.

G **Using the 64** — Complete Guide to Basic programming, machine code, sprites, graphics sound and peripherals. R.R.P. £9.95.

H **Sprites and Sound on the 64** — A detailed look at the best features of the 64. R.R.P., £6.25.

I **The Complete ROM Disassembly** — for anyone who wondered how the 64 works. R.R.P. £6.25.

J **Will you still love me when I'm 64?** — 64 sound-exploring modulation, envelope generation, filtering and the Sid chip. R.R.P. £6.95.

K **Further Adventures on the 64** — How to give adventures the professional polish with graphics and sound — includes disk. R.R.P. £9.95.

To: CCI Book Offer, 40 Bowling Green Lane, London EC1R 0NE.

Please circle the letter of the books you require.

A B C D E F G H I J K

I have ordered ☐ books. I enclose a cheque/P.O. ☐

(Please make cheques payable to 'CROFTWARD LIMITED')

BLOCK CAPITALS PLEASE

or debit my Access Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature Date

Name

Address

Orders outside UK add 50p per Book

The great AMIGA Cover Up!

Keep your AMIGA protected with a strong, top quality, fire proofed cover. Specially designed for the AMIGA 1000, it has a neat mouse pocket to keep the control device safe, too. At only £15.95 (plus 50p p&p) its a great way to keep dust and dirt off your computer. When you're not using it cover your AMIGA up and keep it safe!

Only £16.45 inc P&P

To: Commodore Business and Amiga User
40 Bowling Green Lane, London EC1R 0NE

I want you to rush me a special AMIGA cover. I enclose a cheque (sterling) for £16.45 (add £1 for postage outside the U.K. and Ireland) made payable to 'Croftward Limited'

Name .....

Address .....

.....

.....

Access ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature .....

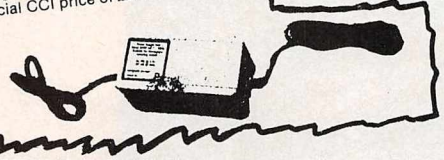
SPECIAL OFFERS! ONLY TO CCI READERS

A SPECIAL OFFER ON DISKS!

WHICH ARE PRODUCED BY A LEADING MANUFACTURER AND ARE OF THE HIGHEST QUALITY

Power Supply

If your power pack for your 64 has blown up, or is overheating this will take its place to give you trouble free use. Vital for the perfect running of your 64, this Power Supply is highly recommended. Made by a leading manufacturer, we are offering it at a special CCI price of **£24.95**



Turbo-GEOS Mouse C64

Superb quality two-button mouse — compatible with GEOS. (Graphic Environment Operating System program with icons and windows). Will also run with most joystick operated programs. **Mouse only £34.95**

only £34.95

Turbo GEOS Mouse with OCP ART STUDIO

at £47.95 tape version (64/128)
& £50.95 disk version (64/128)

Features of ART STUDIO

- ★ operates in high resolution mode
- ★ icon driven
- ★ pull down menu
- ★ creates an image — shrinks, expands and rotates
- ★ 32 textures
- ★ 3 magnification options
- ★ 16 brushes
- ★ 16 pens
- ★ 8 sprays
- ★ zoom
- ★ cuts and pastes
- ★ printer dump
- ☆ operates with most centronics or RS232 printers

★ OUR SPECIAL OFFER HAS RECEIVED RAVE REVIEWS ★

5.25 REVERSIBLE DISKS (FLIPPIES)

Look!! Single or Double sided 40 track reversible disks! 2 notches and 2 index holes enable you to use *both* sides of the disk on your single side Commodore or compatible disk drive!! Supplied in boxes of 10 with user and write protect labels.

QUANTITY	PRICE	TICK HERE
10	£6.95	
20	£12.95	
30	£17.95	
40	£23.95	
50	£28.95	

3.5 MICRODISKS FOR THE AMIGA

Double sided microdisks — 80 track. Supplied with user labels in boxes of 10.

QUANTITY	PRICE	TICK HERE
10	£16.95	
20	£32.95	
50	£78.95	

THESE PRICES INCLUDE VAT AND POSTAGE.
TICK WHAT YOU WANT, AND SEND IT WITH YOUR ORDER FORM TO THE ADDRESS ON ORDER FORM.

To: Commodore Computing International
40 Bowling Green Lane, London EC1R 0NE.

I would like to order:
(*state quantity*)

- ☐ Turbo Geos Mouse
- ☐ Geos Mouse + OCP Art Studio
- ☐ Power Supply
- ☐ Disks

Total Goods	£
Postage and Packing	£1.25
Grand Total	£

I enclose a cheque/P.O. No

for the amount shown above payable to 'Croftward Ltd' or please debit my ACCESS account No

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry Date

Signature

Name

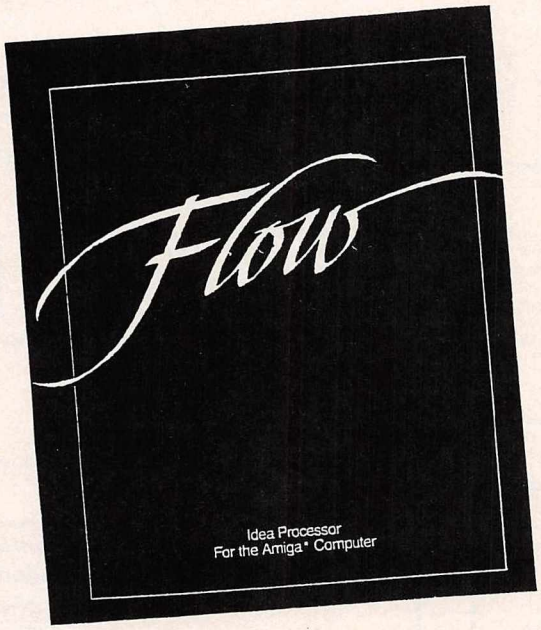
Address

Telephone Number

Please allow 28 days for delivery.
APPLIES TO UK AND EIRE ONLY

NEW AMIGA

Virtually all the companies involved in producing software and hardware for the Amiga were represented at the AmiExpo in New York. Many of them were releasing new or updated products. We shall be reviewing or reporting on them all in coming issues of the magazine. There were some attracting considerable attention or were interesting enough to merit an early mention if only a brief one as we are going to press immediately after the date of AmiExpo.



FLOW — UPDATED

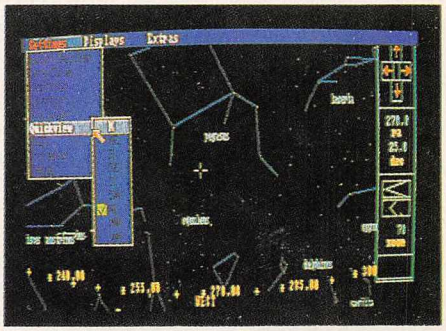
One of the most interesting ideas was literally an Ideas Processor — FLOW. We have reviewed Flow before but there is now an updated and improved version available.

With Flow you can organise anything from presentations to parties. You enter your ideas in outline. Selectively pulling up only the portions of interest, you can use Flow to help you quickly and easily bring the important ideas into sharp focus. It uses all keyboard features including command key menu equivalents, keyboard shortcuts and the function keys. New Horizons Software would be willing to let you upgrade to the improved version for a small fee.

GALILEO

Challenging for the title of the most unusual product at the Show was Galileo. This is a software program that lets you look up to the stars and find out which star is where. The astronomy package uses a database of over 1600 stars, displaying them like a planetarium. You can track the planets of the solar system too, study the pathways and the planetary conjunctions. The whole thing is a depiction of the sky in the way that we would probably all like to see it — without being troubled by the weather or having to study complicated mathematical or astronomical tables. Galileo himself, I am sure, would have loved it.

The Galileo package, appropriately, comes from Infinity Software.



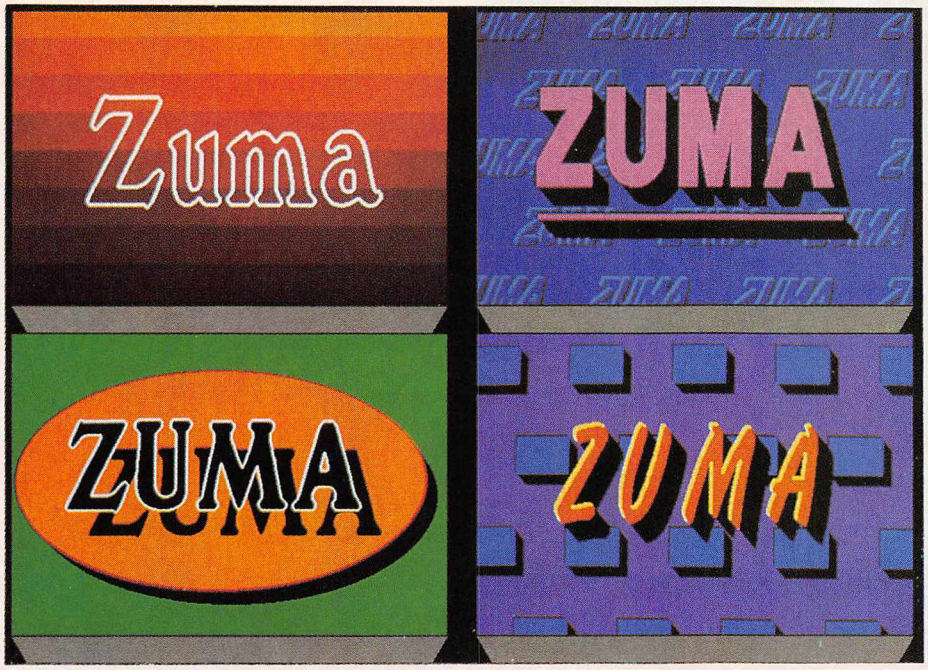
PRODUCTS

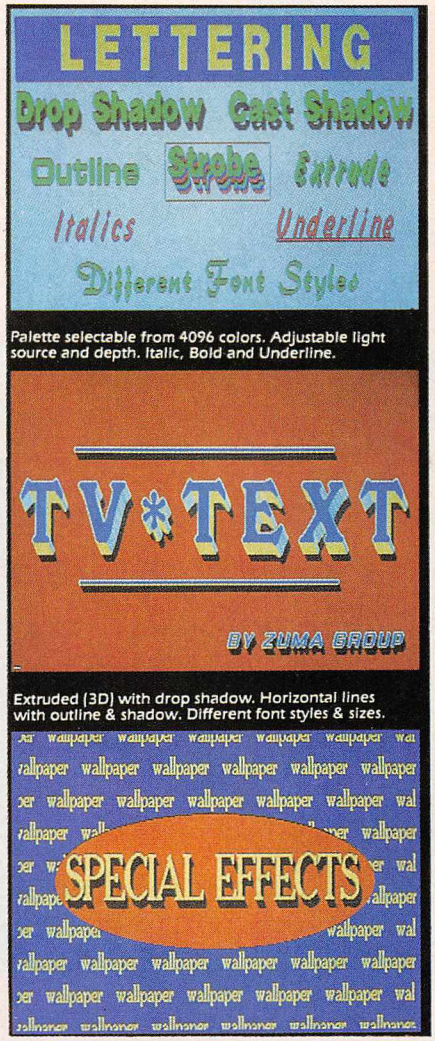
TV TEXT

TV Text is a titling package that lets the Amiga turn out the quality of video character generation that is normally only found at a professional level. You can use it for creating lettering and backgrounds for presentation graphics or video applications in either 640x200 or 640x400 screen modes. You can use full compatibility with IFF graphic formats for image importing or exporting and also use it with a genlock for video applications.

The head of a New York video studio told us that she already uses TV TEXT for professional video use.

Zuma who make TV TEXT also supply a range of fonts which are compatible with the package.

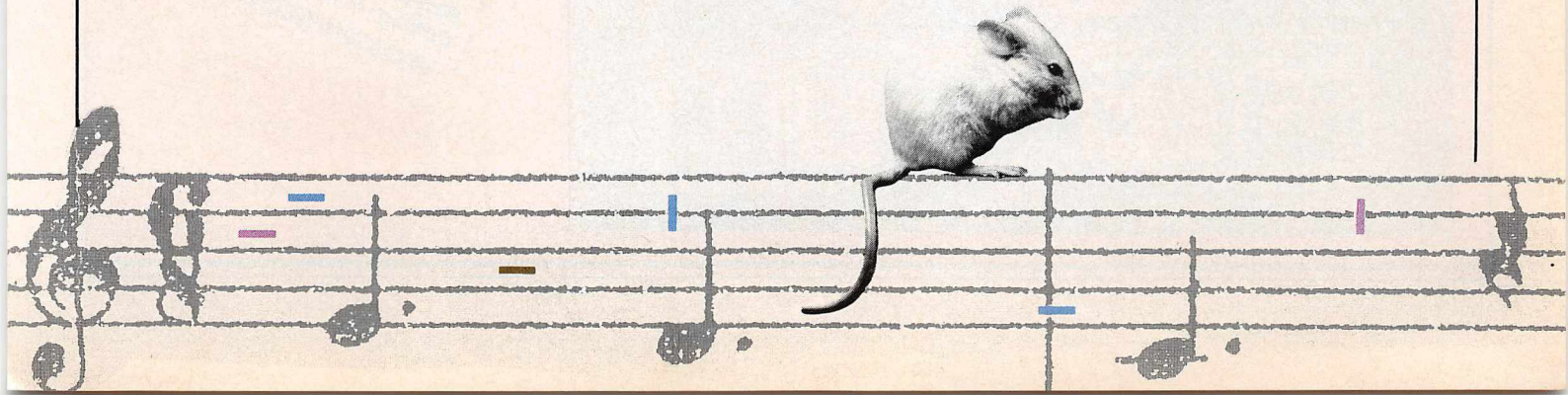




MUSICAL MOUSE

Musical Mouse is a delightful product that really does let the totally helpless musical amateur feel as if he were Beethoven, at least. It works on the simple system of four thin bars across the screen. The horizontal bar — or bars you can use them two and two or three and one — are for single notes and the vertical for chords. They are programmed to let you play with the mouse, horizontally or vertically — tuneful sounding music that you control by moving the mouse up or down. It is totally simple and yet sound absolutely delightful. And it looks very good to with changeable graphics. There are lots more complications you can use from the menus such as harmony, transposition, voicing, counterpoint and electronic orchestration. All features are realtime and interactive. Because the Musical Mouse can produce more than 30 four note chords per second dense electronic textures can be produced.

Musical Mouse was previously available for the Macintosh only and is now a very pleasant addition to the Amiga musical armoury. The price in the US is $72.00.

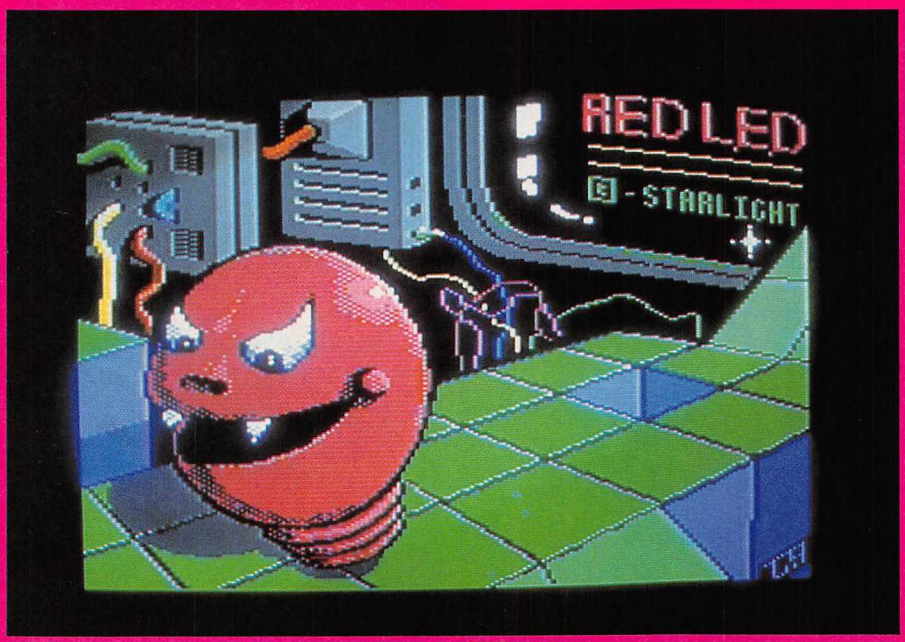


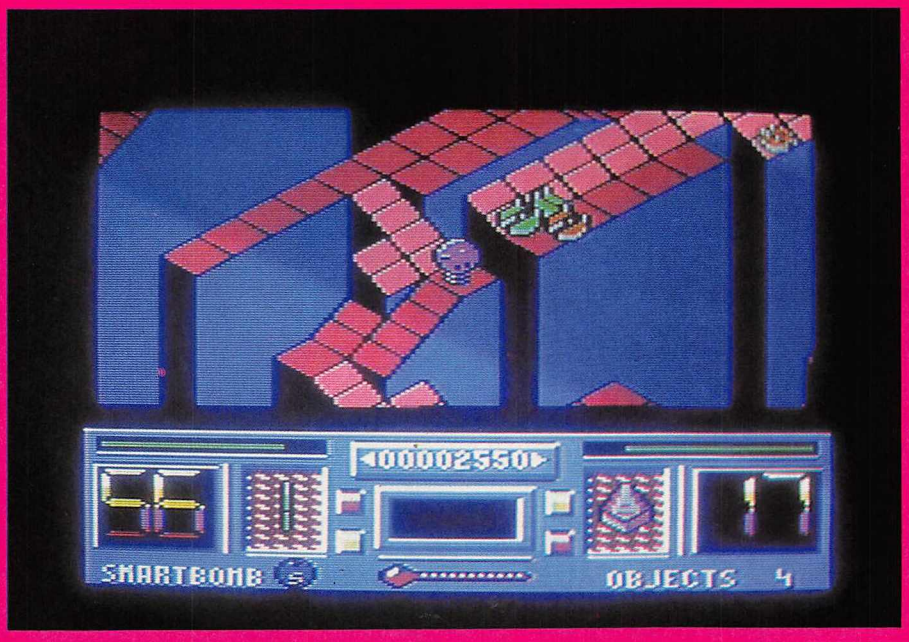
C64

MEGA

Red Led — Starlight

Take elements of Marble Madness, Spindizzy, Blockbusters, and throw in a bit of shooting for good measure, and you've got Red Led. Blockbusters and Marble Madness may not seem the perfect combination, but its similarities with Blockbusters aren't the greasy-haired spotty university boffins studying for a degree in metaphysic chemistry, but the ultimate aim of the game; to make a path across the board of hexagons.





At the start of the game you are presented with a neat map made up of hexagons, each of which represents a battle terrain. Here you select which land you will play on, and which droid you will use, certain driods being more suited to particular lands.

With that out of the way, it's on to the game. Each land is made up of slopes, holes, narrow ledges and acid pools, and displayed in multi-directional scrolling 3D. To win a hexagon on the board, all the energy pods must be collected, and the exit found before your droid cocks out due to contact with kamikaze aliens, being sizzled in acid pools, or falls into the void.

Control of the droid is similar to Spindizzy, with variable speed and the ability to travel in any direction, as opposed to the usual eight directions.

The lands are drawn with a grid pattern to show up slopes and flat land. These don't have many features, but are well thought out with the odd message incorporated into the designs. The sprites are of the kind you might expect from a game such as this, abstract blobby creatures which are reasonably well drawn and animated. Considering the scrolling is in more directions that eight, it's surprisingly smooth. Sound effects in the game are simple but adequate.

Although this is an old idea, Red Led is great fun to play, and anyway, how many original games do you expect to see these days? As Arkanoid has shown all too well, a game doesn't need to be very original to make it big. If you liked Spindizzy, this is for you, and even those who don't will find it hard to resist. Definitely Starlight's best yet. Francis Lee is coming back to form. T.H.

Price: £9.95 (c) £14.95 (d)
Graphics: ★★★★
Sound: ★★★
Playability: ★★★★
Rating: Mega

ITS HIGH TIME FOR HI-TEC

PC DITTO ATARI ST EMULATOR £89.95

"It is now possible to own a machine that can run APPLE MAC SOFTWARE, IBM PC SOFTWARE and ATARI ST SOFTWARE, all for not much more than the price of an Atari ST"
(Personal Computing World, October 1987)

MAC EMULATOR	ATARI ST	£99.95
EASY CALC	ATARI ST	£49.95
SKYPLOT	*ATARI ST*	*£69.95*
MONITOR MASTER	*ATARI ST*	*£49.95*
CARTRIDGE EXPANDER	*ATARI ST*	*£49.95*
HOME PUBLISHER	*ATARI ST*	*£24.95*

HI-TEC products are distributed by Robtek Ltd,
Unit 4, Isleworth Business Complex, St. John's Road, Isleworth,
Middx. TW7 6NL. 01-847 4457

HI TEC

STOP TYPING THEM IN!

CCI Programs on Cassette— Disk

Many readers have requested the programs we publish in CCI to be available on tape or disk. They complain typing in pages of numbers is driving them crazy, and want, reasonably enough to get the programs the easy way. As regular CCI readers know, the quality of the programs we print is outstanding and covers a wide range of helpful utilities and other useful and entertaining material.

So we are now going to supply the routines from the pages of CCI on cassette or disk. Readers will be able to subscribe for a year's programs. The year's programs will be divided into quarterly cassettes or disks. Each tape or disc contains the full three issues' programs and will be mailed at the end of January, April, July and October, 1988. Should the programs fill more than one cassette or disk, a further cassette or disk will be sent without charge. The cost of the complete year's programs, cassette or disk, is £12 (including p&p). We regret that at present we can only supply these for the UK and Eire.

To: Commodore Computing International,
40 Bowling Green Lane, London EC1R 0NE.
I enclose cheque/P.O. No.
for the amount shown above payable to 'Croftward Ltd' or please debit my ACCESS account No.

Expiry date

Signature

Name

Address

Telephone Number

Please allow 28 days for delivery.

WIN! WIN! WIN!

A Megapocalyptically Sensational Prize!

Martech, creators of really explosive games, think their Mega Apocalypse game is atomic, at the least. They are really keen to see if you can find anything to compare to the brilliant level of explosive gameplay this game offers. So they are providing the most explosive prize yet for the winner of this exclusive CCI competition.

The winner will get a day out for two at a quarry or some other equally dynamite place where they really do blow things up. No, we aren't sending you up — at least not high in the air! Martech will lay on this TNT of a day, including rail fares in the UK and enough food and bubbly drinks to blow you out if not up for the winner and the companion of his or her friend, brother, sister, mother or grandad or anybody who can stand the bang and crash. The winner will be the first card drawn out of the CCI Comp Sack and will get a copy of the Martech game too. The next twenty all correct cards will get their senders a Mega Apocalypse to play at home — and watch that your TV or monitor doesn't explode sky high!

All you have to do is —

1. **Name the programmer who wrote Mega Apocalypse**
2. **Name the rating CCI gave it**
3. **Name the game he wrote previously**
4. **Name 5 explosive substances**
5. **Name the biggest explosion you can think of (not necessarily on the Earth!)**

Answers, with name and address on a postcard please to Mega Apocalypse Competition, C/o CCI 40 Bowling Green Lane, London EC1R 0NE to reach us by January 30th 1988.

AMIGA
ST
AMG
PHALLANX
That Boxing
Commodore AMIGA
ANCO
AMG
AMG-ST
JUMP JET
AMIGA GOLD EDITION
ANCO
BATTLE THROUGH TIME
Commodore AMIGA
ANCO
AMG
AMG
CRUNCHER FACTORY
BMX
CHALLENGE
Commodore AMIGA
ANCO
AMG
LAS-VEGAS
Commodore AMIGA
ANCO
AMG-ST
AMG
DEMOLITION
ANCO
MAGIC
ANCO
Strip Poker
A Sizzling Game of Chance
Artworx
ATARI ST
Commodore AMIGA
ANCO
AMG-ST
AMG
CHALLENGER
KARTING
GRAND PRIX
Commodore AMIGA
ANCO
AMG
SPACE BATTLE
AMG
SILVER EDITION £9.95
GOLD EDITION £14.95
ANCO SOFTWARE LTD, 35 WEST HILL, DARTFORD, KENT DA1 2EL. TEL: 0322 92513 FAX NO: 0322 93422.
MAIL ORDER HOT LINE: 0322 522631 PAYMENT BY CHEQUE P.O., VISA OR ACCESS

Summer Events

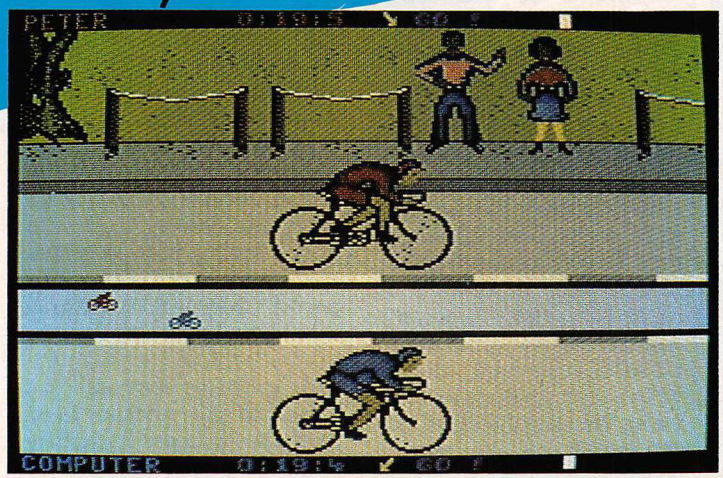
Summer Events — Anco

Can you believe it? It's here at last — after all this time, all the press releases, demo copies, all the hype, and now it's here! Is it worth the wait? Well find out right now, as I take a no-holds barred look at this follow up to the award winning Winter Events.

8 events have been mentioned but it looks like Anco have had trouble cramming all 8 in so one event; Kayaking has been dropped.

Firstly there is Butterfly Swimming. This event requires great timing and coordination — rather like Biathlon in Winter Event — and has some incredible animation as you try to beat your opponent, thrashing and pushing your joystick. You must put air into your lungs as well as stroke. This event is beautifully presented, with excellent graphics, and sound, and you can play against the computer or a friend.

The next load, is the pole vault event and again requires great joystick dexterity as you try to get your man over the bar. You are first asked whether you want to jump at that height, you can decline and go for a higher jump, or you can try for that one. The graphics, again are impeccable and show what can be done with the right programming techniques.



Javelin, is one of the easier events on the tape, just bash the fire button as quickly as possible, to build up speed, then pull it to the left, get the right angle, and let it fly. Though not as graphically impressive as some of the other events, it's one of my favourites, because it's easy, and it's a pleasure to watch the javelin scroll through the air.

Skeet shooting is another of my favourites — it completely catches the feeling of shooting as clay pigeons (or should I say skeets?) You have 8 sights and each floats in the air and you have to fire from each sight in turn — some being placed in positions that make it easy to shoot the skeets, others in positions that make it difficult.

Platform diving is the next joystick buster, and again there are graphics of superlative quality. You must spin, somersault and splash your way to a medal, by doing one jump on a low platform and another on a higher one. All this is accompanied by some excellent music.

Cycling is the game with the best graphics of the lot. You must turn your joystick through 360° in time with an arrow. Again you can play against the computer or a friend.

Weight lifting is excellent — in both graphics and sound — you must first do the 'two hand snatch' and then go for the 'clean and jerk'. Excellent.

No aspect or event on this tape has been skimped on, it's all round quality and excellence. The programmer Udo Gertz of Kingsoft has done it again and created a sensational game that no C16 owner will want to be without.

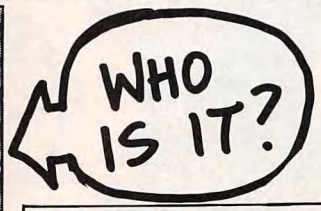
Price: £9.95 (c)
Graphics: ★★★★★
Sound: ★★★★
Playability: ★★★★★
Rating: Awesome

THIS IS THE LITTLE RED BOOK OF CHAIRMAN MIAOW!!

Who is this person and why is he/she trying to hide in the Ivy — which as everyone knows is a restaurant specialising in pubic — sorry — public relations affairs. And who cut his/her feet off? We have reason to believe he is an ex-journalist, because he/she can't afford a haircut. We suspect he/she has a desperate desire to make Headlines — which you might think is something that goes at the top of a page but computer people realise is really the name of a shadowy organisation that controls large slices of a terrorised press. They're quite gentle really. They just say things like "Print this picture or we'll send Simon (Mega Apocalypse) Nicol around to play with you." There used to be, as you will remember, a certain Lesley Headlines — no relation, of course. (Whatever happened to her?) According to some entirely unreliable rumours the ivy-hiding person is Simone Bristol-Cream, erstwhile wine and bloodsports correspondent for Computer Trade Weekly. Anyone supplying positive identification will receive a signed photo of Clement Chambers dressed as the third victim of Jack the Ripper.

Cut Off

What, I hear you cry, ever happened to a company called Activision? I frankly do not believe the rumours that they have been taken over by Mark Kale's International System Bangkok Travel Agency. But we do know that something strange appears to have happened to them. For, alone among UK software houses, they are impossible to reach on the telephone. They are reputed to have an answering service but they obviously don't get the messages because they never call back, no matter how important or urgent it is. Oh dear, all my fur seems to be standing on end. I do hope nothing nasty is going to happen to them like having picked up something unpleasant from visiting Thailand. Andrew Wight is appearing as the second to last Ninja in 'Ghostbusters' at the Southampton Rialto.



Leicester we forget

I have to reply to the billion telegrams I have received about the disappearance of Princess Krotoa from the masthead of this distinguished organ of the press. (What do you mean telegrams? They've been abolished years ago! Ed.) Sorry, I meant carrier pigeons, drum signals, Micronet chatlines, just let me go on with this story, please. Anyway, sadly, I have to report that Princess Krotoa is no longer with us. Why? Well, as anyone will tell you who lives in North London, the streets are now deadly quiet, not a mugger to be seen. The greatest vigilante the world has ever seen — she was to star in Gremlin's forthcoming Deathwish 124 got bored when the villains no longer appeared — I am not surprised she terrified everyone *here!* — so she went looking for trouble elsewhere. Like in an old-time western film, a town in terror sent for her and she went to do her duty. This time it is Leicester which appealed and packing her trusty teeth, the Princess hit the M1 trail. As you drive by — I believe no-one has ever stopped at Leciester by choice — I am told you can already here the plaintive cries of the frightened gangs of baddies. As you will note from the present CCI, the advertisers that the Princess used to give such a beating to are now crawling out from the woodwork. Anyway you can still see her in our T Shirt ad. No, not the one on the left. He's just one of her victims, screaming in terror with her finger poking his kidneys. We'll all miss you, Princess. For the first time we found out how lovely royalty can really be. (Sounds of sobs rises over CCI Towers and another advertiser telephones joyously to book space.)

Game for Anything

Exclusive! Scoop! I can exclusively reveal — how I love that phrase! — the release of a game that no other computer magazine has even heard of. It's true there has been a short mention in 'Crime International' but that doesn't count, does it? The story is called More Fee Us. It was written by the well-known pair of ace programmers Andrew Bribable and Steve Turncoat. You must remember they created the smash UGetridium. Well, they have created another certain hit. The scenario goes like this. You are a couple of programmers who wrote to an up and coming games house and sent them your first game. They publish it and later you write some more games which they publish with growing success. You come up with another idea and the games company goes ahead and advertises it and even sends a copy of the game to one unfortunate Commodore magazine that thinks that it has an exclusive. Then comes the really exciting part. You have to find a way to walk out on the first company that gave you your original break and then go to another company that is much bigger and can offer you much more especially if you can bring the new game with you. Can you do it? Can you find a method of overcoming your scruples betraying your friend and getting say 20 grand signing on fee? It's a really tough game but if you are brutal and selfish enough I'll bet you can play it and win. I think this game will shoot to the top of the Mafia Chart. I can give you a tip. Make sure you never actually *sign* a contract that means you can just walk out anytime *you* want. That tip comes to you courtesy of CCI's lawyer Snatchit, Grabbit, Stealit and Run. A follow up game called "Do it to them before they do it to you" is planned for early in 1988. Andrew Hewson was born yesterday and will be 97 next birthday.

SUPER FELIX A REAL KOOL KOMPUTER KAT!

Prize Winning Gams

I can now announce the results of my 'Great Gams in the Arcades Competition'. Don't tell me you missed that CCI! Shame on you! Well, the most beautiful legs seen in any arcade anywhere in the world were those on — No, not Toy Horgan, this is a thoroughly sexist comp and only *girls* were allowed — the body of Melbournatronic's gorgeous Marketing Princess Rachel (Tiny Tots) Davies. The dynamic Mastertronic of the Universe Queenpin's liking for these little sweets has nothing to do with Toyboy Horgan or other young playthings of that ilk but is related to an episode in her colourful past that I am forbidden to mention and of which will only tell you that an admirer, Fred 'Rough Trade' Fanta, a well-known lorry driver, presented her with — I kid you not — a whole transport container full — about 4 million boxes that fell off his truck as he passed her door. 4 million! That's a lot of Tiny Tots! Almost as many as the Mastertronic, Ricochet, Bulldog etc games that the hockey-playing Rachel ensures hit Woolies and Boots every week.

So how does your loving S.Felix know that Rach has the legs for the Prize? 'Cos I can exclusively reveal — in confidence you understand — that Ms Rachel is none other than — yes — Supergirl! Yes, folks, in the cause of research into Mastertronic's Arcadia video games productions she takes a quick jump into a convenient phone box and doffs (that means takes off, dummy!) her usual severe business suits and horn-rimmed spectacles, lets down her beautiful brown hair and dons (that's puts on!) an Arcadia Tee shirt which she stole from Toy Horgan and a leather mini-skirt and zips into the arcades, clicking her fingers and looking for action. There I can tell you her long slim gym-fit legs are a bigger sensation even than Roadwars. I understand Mastertronic are considering insuring them Marlene Dietrich style for at least a billion dollars.

The winner of our competition — who spotted the lovely-legged Rachel was not as he claims the Arcade addict Andrew Cash — he never looks up from the machines — it was a certain Sid Felix — no relation of course. He gets the first prize of a long cold glass of rum and condensed milk served in an empty Whiskas can. Not much of a prize? Shows how much taste you've got! This delightful concoction is to be drunk while playing the new Melbournatronic games for sophisticates Metropolis PC on Sir Frank Herman's private yacht — I think it used to be called the QEII — while sailing past the Bahamas in the company of none other than the ravishing Rachel. Ah it's a hard life being the judge of competitions...

Next month's Competition — Guess how much the finder of the said Rachel's recently lost Filofax was paid not to reveal the names and dates of certain appointments it contained and exactly what the classifications Naff, Iffy, Crisp, Mega and Awesome meant when applied to a certain rugby team located not a million miles from Sutton and Cheam.

Party Peace

Our Sacred Editor is floating on air — quite an achievement for a gent who weighs 200 kilos. He came back from the PCW Show totally overwhelmed. No, it had nothing to do with all that boring software and secret new computers that I'm not allowed to tell you about. It was the super super parties at which all the important people in the computer world — tous le monde or tous Paris — as they used to say in Hoxton — attended. There was the marvellous US Gold affair starring Big Tim Chaney who created such a stir that he was supposed to have been offered a contract to appear on a TV show instead of Bob Monkhouse. There was the Scottish Party thrown by Martin Lowe of the Edinburgh Amiga Centre at which Byte by Byte's Scott Petersen revealed so much about Commodore that the next day he was flown back across the Atlantic. But the biggest and most glamorous bash was thrown by Telecomsoft's hostess with the mostest Paula Byrne. O.S.E. was overwhelmed by the sheer starry glitz of the whole thing and acclaimed it the Party of the Show. Maybe he was impressed by the drama of seeing Sir Clive Sinclair throw himself at the feet of the most holy Sister Jane Smith. Sir Clive was clearly overcome on the dance floor by the sheer elegance of the neat little see through habit the holy sister was nearly wearing. It should cause quite a sensation when Sister Jane goes to Latin America where the Pope has asked her to travel through the whole continent to discover what is troubling the natives and satisfy their needs. O.S.E. has asked Sister Jane to send regular reports on her religious experiences. Certainly life is turning into just one success after another for Telecomsoft's dynamic Suprema Paula — The 'Joan Collins of the Computer World' as the assistant editor of 'Punch' called her. Guild of Thieves wins Best Game of the Year B.T. shares are on the up and everybody adores her party. It's really terrible there's absolutely nothing nasty to say. I feel quite ill.

Oriental Arts

I can exclusively reveal that Electronic Arts is not after all taking over the world. Nor, I am given to understand by the most reliable sources, is the concrete and onyx structure that it had erected for the PCW Show — designed by Owings, SkidmoreMies van der Rohe and Frank Wright — to be sent to Egypt to replace the Pyramids which the tourists are wearing out by moonlight. How do I know these sensational denials? O.S.E. was in conversation with none other than Mark Lewis EuroBoss of E.A. who told him that Electronic Arts was devoting its resources to other projects. When pressed the dashingly hirsute Mark confessed that E.A. had merely taken out a license on Japan until the end of the century. A lot of deep sighs of relief are going to be breathed by software companies around the world at the revelation of such a modest scale of ambition. After all, it could have been China. Just imagine a billion Chinese all singing "The Story of the Long March" to the accompaniment of Instant Music, going absolutely rice and bananas with Marble Madness or colouring the whole country red with Deluxe Paint II. Sayonara will be released on 3½" Disk when the plum blossom blooms, priced 2 billion yen or five million florints (What the hell is a forint anyway?) Clement Nexus is Friday the 13th and an affiliated label.

In Memorium

OH MY PAWS AND WHISKERS! WE'VE DONE IT AGAIN!

THE HORRIBLE CCI CURSE HAS STRUCK POOR ANDREW - JUST WHERE IT IS MOST PAINFUL - IN THE WALLET. HE'S DEPARTED THE NON-TELEPHONE ANSWERING ACTIVISION. HE APPARENTLY WASN'T 'RIGHT' OFTEN ENOUGH. I'M SURE THE RUMOUR HE'S TO START A GAMES HOUSE (WITHOUT A PHONE OF COURSE) CALLED PASSIVEVISION IS ENTIRELY UNFOUNDED. OH DEAR...THAT CURSE...

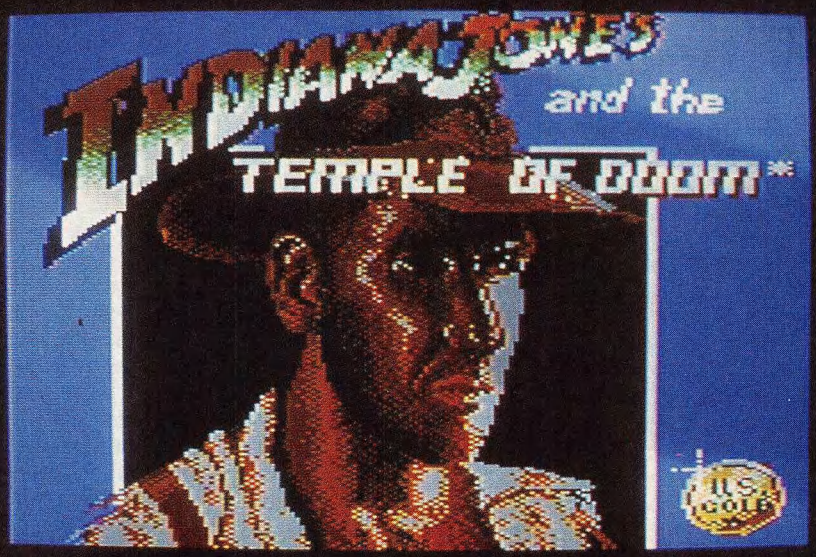
I WONDER WHO'S NEXT...

SEE YOU NEXT MONTH FOLKS!! (OR WILL I?)

OR IT COULD BE THE LITTLE BLACK BOOK OF CHAIRMAN M.W. - SALLIE AND SCOTT 'STOP DOING THAT' WHATEVER IT IS!!

C64

Indiana Jones and the Temple of Doom — US Gold



You would think Indiana Jones, one of the most action-packed films of recent years would make an excellent computer game, with all that whip cracking and baddie bashing. Unfortunately, the great coin-op game of the film has been poorly translated.

The 'adventure' starts on a rocky cliff where the horrible thuggees have imprisoned some kids in cages dotted around the ledges on the cliff. Being a good guy, you decide to set them free with a sharp crack of the whip to the cage lock. As always there are the baddies who will accost you unless you show them who's boss with your whip. As you explore the cliff, rescuing kids, the screen scrolls a little jerkily in one of four directions.

This stage is good fun in the arcade version, but this version is lacking in playability, for a reason I can't put my finger on.

Reaching the top of the cliff, you enter a mine shaft. As far as I remember, the shaft on the arcade version led down and to the left. Commodore gamers get an opposite view. Leaning your coal-truck, you race along the shaft, avoiding dead ends, breaks in the track, and the thuggee guards. The scrolling starts of smoothly, but jerks badly at higher speeds. At the end of the line, is the start of the third and final stage.

This final stage takes place over a small scrolling area which consists of a firey pit guarding three doors. The idea is simple, just whip the guards, swing across the pit and escape through the open door.

Completion of all three stages takes Indy back to the beginning, but with more hazards.

Apart from the unexciting gameplay, Indiana's main drawback is its multi-load. Yup, the multi-load of doom strikes again. My review copy was on disk, and so wasn't too bad, but I can imagine a tape version all too well.

Graphically, Indiana varies from fairly good with attractive sprites on the first stage, to poor sprites and backgrounds on the second which improve on the third.

Unfortunately, almost as soon as the game loads you'll be reaching for the volume knob to get rid of the irritating and awkward arrangement of music from the film.

Indiana Jones is yet another disappointing coin-op conversion which should have turned out a lot better. It's not terrible and can be enjoyable in short periods, but proves too boring for long term play. If you're a particular fan of the coin-op, you could find this worth your while, but be prepared for a bit of a disappointment.

B.V.

Price: £9.95 (c) £14.95 (d)
Graphics: ★★★
Sound: ★★
Playability: ★★★
Rating: Iffy

SPECTRAVIDEO LTD. 165 Garth Road, Morden, Surrey SM4 4LH, England. Telephone: 01-330 0101 (10 lines)

TAKE CONTROL!!!

Once upon a time, you sat at the keyboard and played it like a piano. Cursors and the keys you pressed pushed your sprite around the screen. You were a computer freak who knew the qwerty like — well the front of your hand.

Then some bright spark said "Hey man, Eureka!! What we need is not something to type in like my sister the secretary . . . we need something to grab and wrench and twist and bash . . . We want to drive this thing like a plane . . . Dive bomb the aliens! Shoot up the enemy! Blast away the foe! Typing is too damn slow, too damn clumsy! Gimme something that moves! Speed! Accuracy!"

So they brought in a trakball. "This is a control device used for professional design packages."

Yuk! No way, man. We need something to bash. You can't bash a trakball.

They trashed the Trakball.

Then they brought in the joycard. "This is a very sensitive control device. It can be used for delicate movements."

Oh no! Delicate movements? It's got to stand being squeezed, clenched, clutched, pulled, pushed, torn about, thrown about, even kicked and stamped. Delicate movements? No way, man!

They binned the joycard.

So what do you want, then? They asked.

Joy!! You bellowed. And a stick to grab it with!

A JOYSTICK! You screamed. A JOYYYSTICKKKK!!! A NEW JOYYYYYYSTICKKKKKK!!!!!!

So they designed them. In grey and in black. Transparent and opaque. Micro-switched and double-buttoned. Tall and short. Tall and fat. Squat and stubby. Short and tough. Made from metal and plastic and kryptonite. Indestructaball! They even announced it under the bombardment of Elite, Uridium, Mega Apocalypse and the atomic bombs that fell on Hiroshima and Nagasaki combined. Of course, they said, that's nothing. It will do all that and more. Much more! And it only costs £5 . . . £10 . . . Give us £14.95 and the world, the shooting game universe is yours. Oh well, we said, let's give it a try . . . Maybe a new joystick will make us into arcade champions, we can make the UK team . . .

CONTINUED...

THE CRUISER

Leisuresoft — Price: £9.95

The Cruiser is the cheapest joystick reviewed here (excluding the Wiz Card). It's designed primarily for table-top use with four suckers on the bottom, although it can be hand-held. The two buttons and the stick are micro-switched. An unusual feature of the Cruiser is the adjustable stick tension.

When on a surface, the Cruiser performs very well, and it's pretty good in your hand. The buttons and stick feel firm and responsive, and the red, white and blue colour scheme is attractive.

For ten quid, the Cruiser is remarkable value, and although there are better sticks, it has to be near the top of your joystick list.

Looks: 8
Comfort: 8
Accuracy: 8
Overall: 8

ELITE

Euromax — Price: £15.95

The Elite is a relatively small joystick with not much base to grip. The fire button sticks out at the front. Between the stick and the button is an autofire button. The stick is micro-switched, and is accurate with diagonals.

Whilst the Elite is good to look at, the small base might make it slightly uncomfortable to hold for long periods, but it is probably very well suited to smaller hands.

Looks: 8
Accuracy: 9
Comfort: 6
Overall: 7

MICRO-HANDLER

Euromax — Price: £24.95

This is one wierd joystick! It is a large table-top design, with steel casing. The stick is on the right of the unit, and is micro-switched, as are the two buttons on the left. In the centre are three knobs. Two act as paddles, and the other is a speed control for the autofire.

The Micro-handler give a first impression of being very sturdy, but after some use, the stick tends to squeak and wrench, and feels more breakable. The fire buttons are stiff at first, but loosen up after a while.

This is a well designed stick with only minor flaws, and is definitely worth considering.

Looks: 7
Accuracy: 8
Comfort: 8
Overall: 8

SPEEDKING

Konix — Price: £11.99

Konix have put a great deal off effort and thought into the original design of Speedking. It is highly ergonomic, i.e. made to fit the hand more than just look attractive. It is however a really good looking joystick with a distinctive red and black colour scheme. The stick and the fire button are both microswitched.

The Speedking feels very comfortable, though rapid fire over a very long time might just cause a finger cramp. The stick has fewer definite corners which could perhaps make diagonals a shade tricky.

This highly original joystick was so different initially that it might not have turned out to be everyone's cup of tea but in fact it feels very strong and must be credited for its originality. It has already sold millions to satisfied users around the world. Speedking has just be reduced by a pound in price and comes bundled with Gremlin's "Thing Bounces Back" which must make it excellent value.

Looks: 9
Accuracy: 7
Comfort: 8
Overall: 8

U.S. GOLD All American Software

LEADERBOARD

ACCESS Software Incorporated

Famous Courses Of The World VOLUME 1

ALL THE FEATURES OF WORLDCLASS LEADERBOARD IN THIS GREAT NEW 4 COURSE COMPILATION

Following the amazing success of the now legendary Leaderboard series of products. Famous Courses of the World presents four superb new challengers for the joystick golf fanatic.

From the infamous Pebble Beach Course on the California coastline to the historical course of Muirfield, Edinburgh, the oldest golf club in the world. From the beautiful Colonial Country Club built by Texas oil baron Martin Leonard to the "designed for computer" challenge of Access's Glenmoor course, Great Courses of the World is a must for anyone hooked on computer golf.

"INDEPENDENT PRODUCT" NO PREVIOUS LEADERBOARD PROGRAMS REQUIRED

COMING SOON FOR CBM 64/128 ONLY VOLUME 2

LEADERBOARD PRODUCT INDEX

	SPECTRUM	AMSTRAD	CBM 64	ATARI	ATARI ST	IBM	AMIGA
LEADERBOARD	9.99c	9.99c 14.99d	9.99c 14.99d	9.99c 14.99d	24.99d		24.99d
EXECUTIVE LEADERBOARD			9.99c 14.99d				
LEADERBOARD TOURNAMENT	4.99c	4.99c 9.99d	4.99c 6.99d	4.99c 6.99d	9.99d		
WORLD CLASS LEADERBOARD	8.99c 12.99d*	9.99c 14.99d	9.99c 11.99d			24.99d	
FAMOUS COURSES	4.99c	4.99c 9.99d	4.99c 6.99d				
FAMOUS COURSES 2			4.99c 6.99d				

*SPECTRUM +3

U.S. Gold Ltd, Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

TAKE CONTROL!!!

TAC 3

Suncom — Price: £12.99

Suncom's Tac 3 has a grey stick, beige base, and three buttons, one on the stick, and two on the base. No micro-switches here, the buttons have a definite and agreeable click, but the stick feels a little dead.

These joysticks that only need one hand can be very handy for games that use the keyboard and joystick, but this isn't really a standout one. The colour scheme is unexciting and could do with brightening.

At £12.99 it's relatively cheap, but I haven't found it always performs that well in the tighter spots.

Looks: 4
Accuracy: 6
Comfort: 7
Overall: 6

WIZCARD

Euromax — Price £4.95

This isn't a joystick as such. It's very similar to the controllers supplied with the Nintendo and Sega consoles. It consists of a small pad and two buttons on a slim 'card'. The pad is tilted in the appropriate direction, as you would push a joytick.

The Wizard is fiddly and not very accurate to use. Diagonals are very hard to get, making games such as International Karate virtually impossible to play.

Taking its price into account, the Wizard is not that bad, but as always you get what you pay for.

Looks: 6
Accuracy: 3
Comfort: 5
Overall: 5

PROFESSIONAL

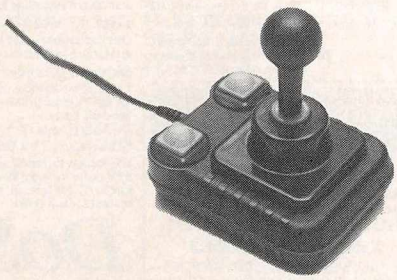
Euromax — Price: £15.95

This is a variation on the classic Kempston design. It is micro-switched all-round with two fire buttons to suit left and right handed players.

The Professional has excellent feel to it, and is the most accurate of the lot, with a good definite diagonal corner, and fire buttons resembling spangles, which fit the finger well.

It feels strong, accurate and won't let you down when you're relying on a decent stick.

Looks: 8
Accuracy: 10
Comfort: 9
Overall: 9



MICRO ACE

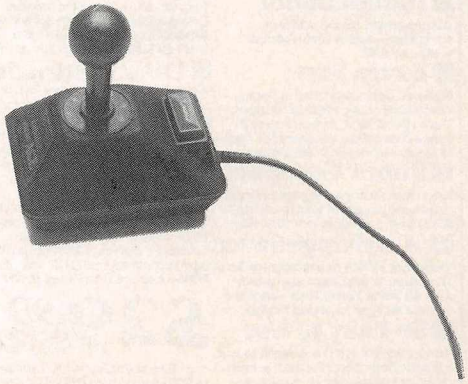
Euromax — Price: £12.95

The Micro Ace has a pyramid-shaped base with a wide button at the front. The stick is micro-switched, but not the fire button.

The corners on the base tend to dig into the hand, making it uncomfortable to hold. The stick feels good and is fairly accurate, but the button has a very dead feel, with no click to signify a press.

This is not a bad stick, but is let down by the button and its sharp(ish) corners.

Looks: 7
Accuracy: 8
Comfort: 5
Overall: 7



COMMODORE PLUS-4/C16 NEW!-BANGS AND CRASHES!! RHYTHM BOX

This Rythm/Drum box will set your feet tapping! At a very modest cost you can sequence a wide variety of digitally recorded percusion sounds. Very easy to use. No knowledge of music is required. In seconds you can set up pulsating rythms to accompany your music. A variety of drums, tom toms, cymbals and a bass guitar combine to produce sounds you never thought possible on the C16/Plus 4. Easy entry of rhythms and a powerful pattern editor. An excellent package — good value at **£7.95** cassette **£9.95** disc.

NEW!-WISP Amazing new product!

WISP offers you a refreshing new way to operate your PLUS 4. WISP stands for Windows Icons Silicon-disc Package. It is packed with many powerful features. Everything in your new operating enviroment is run through windows — just like on very expensive computers. Built in window facilities include a) calculator b) silicon disc c) note pad d) directories e) fast load and save f) error trapping g) programming windows.
Windows may be closed and neatly stored as icons. A smooth sprite is used to select the windows you wish to use from the pull down menus.
With the silicon disc you can instantly save, load and directory — all in under half a second (much faster than even a disc drive!).
The fast load and save to cassette is about ten times normal speed! We have never before sold such a feature packed program to give you power to control your computer to its limits. The ulitmate programming environment. Incredible value. Plus 4 only. Cassette — **£9.95** Disc **£14.95**.

NEW!-BLACK CAT 2

We have black cat 2 in stock and waiting to be despatched to you! Have you ever wanted to use your PLUS-4 Wordprocessor, Spreadsheet, Business graphics etc. with a cassette unit? This program allows you to save your files to cassette rather than disc (as forced to by Commodore).
Version 2 incorporates a FAST load and save system so you can save your files to cassette at disc speed! Quick, convenient, easy to use. Only **£5.95**

THE MIRROR-TAPE BACK UP

Super tape to tape back up copier catering for many PLUS-4/C16 games. Backs up both standard and FAST loading software. Very popular utility — Excellent Value — **£7.95**

THE WAND-TAPE TO DISC

Make full use of your disc drive by effortlessly converting many of your games/software to disc. We have had many letters telling us how much people appreciate this utility. Excellent value — supplied on disc — **£12.95**

PHOTON LOAD- FAST LOAD AND SAVE

Have you ever wasted time waiting for your programs to load or save? PHOTON LOAD, the new cassette operating system loads in seconds and allows you to load and save your programs at about TEN times the speed of a normal load or save. Why spend money on a disc drive when you can load and save this fast. Great value **£7.95**

SUPER SPRITE

This extremely clever utility allows you to use 8 sprites simultaneously over a low-resolution screen. With this program you can now imitate the sprites found on the Commodore 64! A complete package with FREE demo programs and a FREE sprite designer. What more do you need to bring real power to your games on your C16/PLUS 4. A must for games programmers. Excellent value — Cassette **£7.95** Disc **£9.95**

ELECTRIK PENCIL!!!

A truely excellent high resolution art program. Magnificant masterpieces can be quickly drawn using the powerful facilities provided by this package. Impressive results in no time at all. Cassette only **£7.95** Disc only **£9.95**

CASSETTE INTERFACES

If you have a Commodore 64 cassette unit which you would like to use with your C16/PLUS 4 then you need one of these. Just plug in and go! — Only **£5.95**

MERLIN ASSEMBLER

100 o/o machine code assembler for the Plus-4/C16. Very fast assembly of source code. Easy entry/editing of code via the full screen editor. Full load/save and printer facilities. Variable names, labels, hex/decimal, text and data statements, remarks, post indexing of variables etc. Many other facilities too numerous to mention. Highly recommended — A truely superb assembler. Comes with instruction booklet and working examples of machine code routines. READ THE EXCELLENT REVIEW IN YOUR COMMODORE - MARCH 1987. Cassette **£8.95** Disc **£13.95**

JOYSTICK ADAPTORS

Converts any joystick to Plus 4/C16 format. Simply plug in and go! Only **£3.50**

Tape Head Alignment C16/+4

The perfect cure for the majority of loading programs. Specification as for the Commodore 64 (see below). Only **£6.95**

COMMODORE 64 EVER HAD A LOADING PROBLEM?

Then send off for WIZARD'S "TAPE HEAD ALIGNMENT KIT 64" — The most common cause of loading failure is bad alignment of your tape heads. This kit allows you to set up the tape heads of your cassette unit for the BEST possible loading conditions. In many cases this will make a remarkable difference in loading reliability. The complete feature packed kit — **£6.95!!!**

RAPID despatch of orders.

Send an S.A.E. for our current catalogue with full descriptions. U.K. P&P FREE and by FIRST CLASS post. Europeans please ADD 50p. Outside Europe ADD £1.50 for AIR MAIL. Overseas orders welcome. All payments must be made in pounds sterling. Cheques/POs to:

WIZARD SOFTWARE (Dept. Y101), 20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR.

WIZARD SOFTWARE

Dept. C102) 20 Hadrian Drive, Redhills, Exeter, Devon EX4 1SR.

AMAZING NEW 'TOTAL BACKUP' CARTRIDGE FOR COMMODORE 64 AND 128 (IN 64 MODE)

DISK TO DISK • DISK TO TAPE • TAPE TO TAPE • TAPE TO DISK

HARDWARE TRANSFERS MULTI-PARTS • DUMPS HI-RES SCREENS

NEW ACTION REPLAY V.3 FROM DOSOFT UNSTOPPABLE 'TOTAL BACKUP' CARTRIDGE

OUR NEW INNOVATIVE HARDWARE AND SOFTWARE COMBINATION GIVES YOU MORE POWER, MORE FEATURES, MORE FUN!!

Action Replay V.3 is now more powerful, has more features and will back up more programs than any competing cartridge! It handles the latest protected games!

Just plug it into the expansion port then press the Magic Button! Our new hardware design makes this absolutely unstoppable. Now you are in complete control. Tape to tape. Tape to disk. Disk to disk. Disk to tape. No special knowledge is required. It tells you exactly what to do. It's so friendly– and it's a lot of fun too!

Become invulnerable! Action Replay V.3 now has a SPRITE KILLER. Play weird games! The unique SPRITE MONITOR lets you save sprites from one game and load them in another! The mind boggles!

Nothing else offers all these features at this price!

■ Mega-Freeze

Freeze and save ANY working program—the Magic Button is unstoppable—unlike other cartridges. Also it is now undetectable by software!

■ Independent

All programs reload without cartridge—and at turbo speed —tape or disk.

■ Extra Fast

Make all backups at Turbo Speed—much faster than rival cartridges. Dual speed Tape Turbo is up to 3 times faster than commercial Turbos 10 times faster than Commodore.

■ Super Compact

Intelligent compacting techniques minimise program size into single files. Save 3 or more per disk side.

■ MultistageSaves

Transfers MORE multistage loaders from tape to disk than any other. And all parts Turbo load—another feature unique to Action Replay.

■ So Easy to Use

Action Replay V.3 is a delight to use. All functions described on screen. No user knowledge is required.

■ SpriteControl

Unique Sprite Monitor lets you disable them. Save them! Change them!! Customise your games!!!

■ Picture Save

Unique! Save ANY Multicolour Picture, including title screens. Compatible with Blazing Paddles, Koala, Graphic Slideshow etc. Built-in Slideshow for tape users.

■ Disk Fastloader

Superb bonus feature loads five times faster. Takes up NO memory.

■ Code Inspector

Look at whole memory—program, registers, etc. Everything you need.

■ Compatible

Fully compatible with Commodore 64, 64C, 128 and 128D in 64 mode, 1541, 1541C, 1570, 1571 and Enhancer Drives, CBM compatible tape recorders, FastDOS, and Turbo ROM—can the others say that???

£29.99 GET MORE FOR LESS!

Buy Action Replay with DiskMate in ONE cartridge ONLY £39.99

Action Replay and DiskMate are also available from Datel Electronics

DiskMate Cartridge V.2

This is the way Commodore should have their DOS. Single keystroke commands: e.g. LOAD and RUN straight from directory, and much, much more! Works with all drives: 1541, 1570 and 1571.

- 2 minute complete Backup
- Very fast disk functions
- Invisible
- Toolkit
- 10 second Format
- Powerful 'Floating' Monitor
- SAVE "@0:" bug cured
- Takes up NO memory
- Unstoppable reset

£14.99 TERRIFIC VALUE

Buy DiskMate with Action Replay in ONE cartridge ONLY £39.99

100% SUCCESS? WE ASK: WHO'S KIDDING WHO?

Action Replay V.3 will back-up ANY program which ANY other cartridge can—and much more! It also has unmatchable features. For instance, 'Freeze Frame' uses more disk space, saves SLOWER, has a SLOWER tape loader and has NO built-in disk fastloader, NO picture, NO Sprite, NO restart-features, yet costs £10 more!!! So, come on, who's kidding who? If Action Replay V.3 doesn't live up to our claims, return it within 7 days of receipt and you can have your money back!

Graphics Slideshow

View pix from games, graphic packages or loading screens singly or in sequence. 16 pictures per disk. Turboload. Disk only.

LOOKING GOOD AT £4.95

SPECIAL OFFER!

Enhancement and Slideshow on one disk ONLY £11.95

Enhancement Disk

Get even more from Action Replay with this Bonus Disk to back up the new non-standard multi-stage loaders.

GREAT VALUE AT £7.95

Our cartridges carry a twelve month guarantee against mechanical failure.

How to get your DoSoftware

Please send cash/cheque/P.O. with order for fast despatch (SAE only for full details). Send off now to:

DoSoft (Dept Y), 2 Oakmoor Ave, Blackpool, FY2 0EE

UK Postage included. Europe add £0.75, or £2 if order includes Blank Disks. Overseas add £1.50 for Airmail, or £3.50 if order includes Blank Disks.

SUPER SOFTWARE SALE

Buy NOW and SAVE! SAVE! SAVE!

The DoSoft Collection

UNBEATABLE OFFER The latest versions of MegaTransfer, MegaUtility, MegaTape and ProSprite ALL on One Disk

HALF PRICE £12.50 WOW!

DoSoft Super Disk Kit

AS ABOVE but with 12 Xidex Precision Boxed Disks. A great start to get your programs on disk at a giveaway price!

SAVE! SAVE! SAVE! £19.99

Mega MegaTape Savings

OUR FAMOUS Tape-to-Tape utility for one Datassette at an unbeatable price.

BUY NOW £5 BRILLIANT!

Xidex Precision Disks

From the WORLD'S LEADING SUPPLIER— 12 Double Sided, Double Density 5¼ Disks complete with sleeves, labels, tabs and FREE high impact plastic storage box

TWELVE FOR ONLY £8.50!

DoSoft

You'll Do it Better with DoSoft

FAST DISK UTILITIES • LOADERS • 2-MIN DISK COPY • FAST DISK FILE COPY • FAST FORMAT

TAKE CONTROL!!!

COMPETITION PRO 5000

Dynamics — Price: £14.95

It's hard to beat the design of the Competition Pro. This version has a micro-switched stick, with two buttons that have a good feel to them.

The base is large and comfortable to hold, with an accurate stick. Considering this is a pound cheaper than Euromax's Elite Autofire, it comes out at pretty good value. This is strong, good looking and still comes good around five years after its original design.

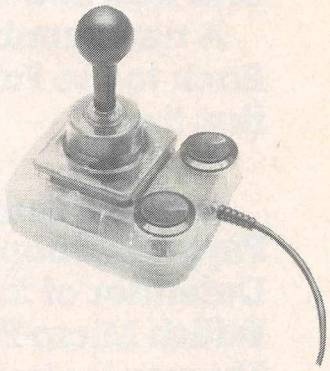
Looks: 8
Accuracy: 9
Comfort: 9
Overall: 8

COMPETITION PRO 'CLEAR'

Dynamics — Price: £15.95

This is exactly the same as the Competition Pro, but with a clear case, which makes it very attractive.

Looks: 10
Accuracy: 9
Comfort: 9
Overall: 9



TERMINATOR

Robtek — Price: £19.95

Here's one for all you Rambo's out there. The Terminator looks just like a hand grenade, it's even got a pin! A short metal shaft sticks out the top, with a metal strip on the front acting as a fire button. Both stick and button are micro-switched.

The Terminator's strongest point is without doubt its looks, as it proves awkward to hold, and the button is easy to press by accident.

One for Commando, Rambo, Gryzor etc. for added realism. Just make sure you don't get carried away and lob it out the window!

Looks: 9
Accuracy: 7
Comfort: 7
Overall: 7

COMPETITION PRO EXTRA

Dynamics — Price: £16.49

The Extra is the top of the range, de-luxe version with micro-switched buttons, auto-fire, and a switch that works on a similar way to auto-fire, but makes your spaceship, man, or whatever move slowly. An original feature, but I can't think of many applications for it.

The addition of auto-fire and micro-switched buttons (just like those on Combat School) make this my favourite of the lot.

Looks: 10
Accuracy: 9
Comfort: 9
Overall: 9

Judgement on joysticks, like the steering of a car, are very personal opinions. Don't take our word for anything! Grab them yourself and give them a try. Demand from your dealer a test, lots of tests. Our ideas of what makes a joystick great may not be yours. Just use our ratings as a guide for your own judgement. Now how about this new joystick, man, feel good?

Charts

A couple of real breakers this month — Ocean's Renegade jumps right into the number one spot and Bubble Bobble enters at number two. Road Runner slips from last month's top place. Martech's Mega Apocalypse comes in at seven and Red Led at ten.

A new number one for the budgets is Power of Love film hit Back to the Future with Players' Joe Blade coming in for the first time.

Our first Amiga Chart leads off with Psygnosis' impressive Terrapods and long-time favourite Defender of the Crown holding number two. Rainbird's British Micro-Federation game of the year winner Guild of Thieves looks likely to move up.

C64

	GAME TITLE	COMPANY		Price (£)	Rating
1	Renegade	Imagine	★	8.95	Crisp
2	Bubble Bobble	Firebird	★	9.95	Crisp
3	Road Runner	U.S. Gold	↓	9.99	Mega
4	World Class Leaderboard	U.S. Gold	↓	9.95	Mega
5	Ace 2	Cascade	↑	9.95	Awesome
6	Epyx Epics	Epyx	↑	9.95	Mega
7	Mega Apocalypse	Martech	★	9.95	Awesome
8	Wizball	Ocean	↓	8.95	Mega
9	Pirates	Microprose	→←	14.95	Mega
10	Red Led	Ariolasoft	★	8.95	Mega

Budget Chart

1	Back to the Future	Firebird	1.99
2	Kikstart 2	Mastertronic	1.99
3	Run for Gold	Alternative	1.99
4	BMX Simulator	Codemasters	1.99
5	Joe Blade	Players	1.99

Amiga Chart

1	Terrapods	Psygnosis
2	Defender of the Crown	Mirrorsoft
3	Goldrunner	Microdeal
4	Guild of Thieves	Rainbird
5	Challenger	Anco

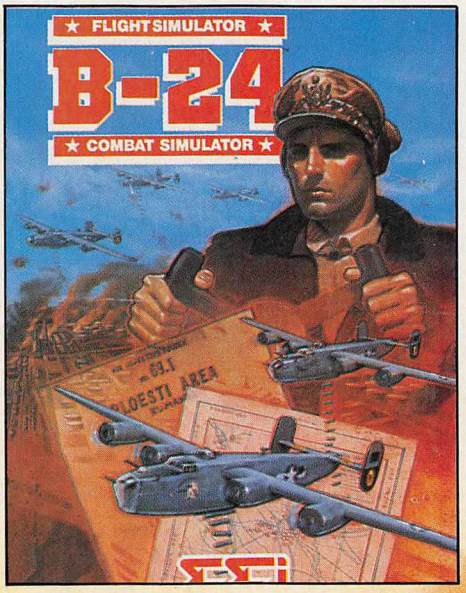
★ NEW ENTRY.

SEVEN NEW MIND BLOWING SIMULATIONS FROM

SSI

STRATEGIC SIMULATIONS INC

From the world's greatest creator of simulation software comes a further collection of outstanding challenges. Relive some of the momentous struggles that have changed the course of man's history; escape to worlds of fantasy and mystery where lies the unknown or create your own encounters played out in time and place of your own choosing. These are the challenges in which you take complete control.



B – 24

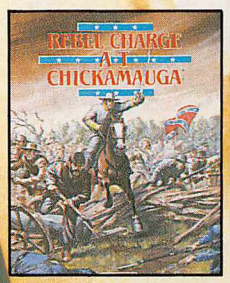
From the war torn skies of World War II emerged one legendary offensive weapon – the B – 24 bomber. This superb simulation allows you to recreate the exploits of this great aeroplane on single mission runs or a 19 mission campaign to destroy oil refineries in Ploetsi, Rumania.

As pilot you control the mission Flight on a bombing raid From your home base in Italy; as group leader you command 40 B – 24's on bomb runs to 14 targets deciding on when and where to bomb depending upon weather, plan availability, group efficiency and target oil production levels. A Flight and combat simulation of unparalleled quality.

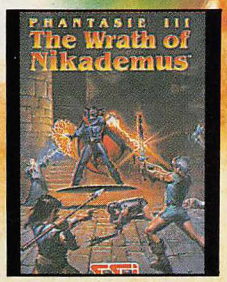
CBM 64/128 *Cassette* £14.99
Disk £19.99

B – 24

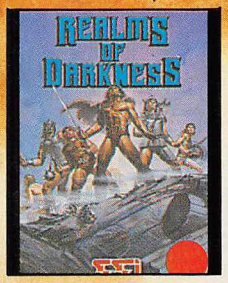
"The most realistic Flight simulation you're ever likely to experience"



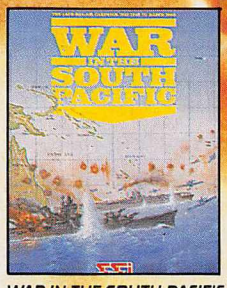
REBEL CHARGE AT CHICKAMAUGA
is the definitive simulation of the South's last major offensive thrust – the Battle of Chickamauga. This game Faithfully recreates the two-day battle to give you the opportunity to try and repeat or reverse history.
APPLE, ATARI, CBM 64 £24.99 **Disk** £29.99 **IBM**



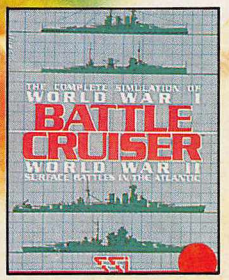
PHANTASIE III – THE WRATH OF NIKADEMUS
Promises a spell-binding story-line with enough twists and turns to satisfy your wildest Fantasies. This time the Dark Lord Nikademus has set his evil sights on conquering not only an island, but the entire world.
ATARI, AMIGA £24.99



REALMS OF DARKNESS
Fame, Fortune and power. These are the spoils of victory For those who survive this incredibly challenging and multi-faceted Fantasy adventure game.
CBM 64/128 £19.99

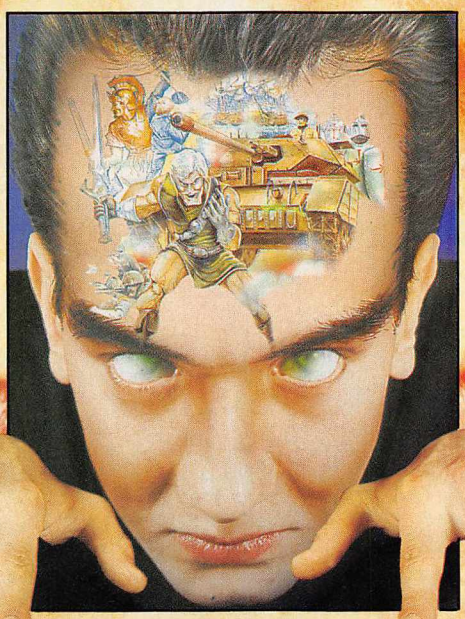


WAR IN THE SOUTH PACIFIC
Three exciting scenarios from the history making land, sea and air campaigns of May 1942 to March 1943.
CBM 64/128, APPLE, ATARI £24.99



BATTLE CRUISER
Two exhilarating sea-faring opportunities to relive the classic naval engagements of World War I between Great Britain and Germany and reenact World War II surface battles between Britain/France and Germany/Italy.
CBM 64/128, APPLE, ATARI £24.99

WAR GAME CONSTRUCTION SET
Break Free from all limits and constraints, unleash your imagination and create your own role playing scenarios and battle scenes – historic, modern, Fantasy or even plan a sci-fi encounter as you struggle For control of the Stars.
CBM 64/128 ATARI £19.99

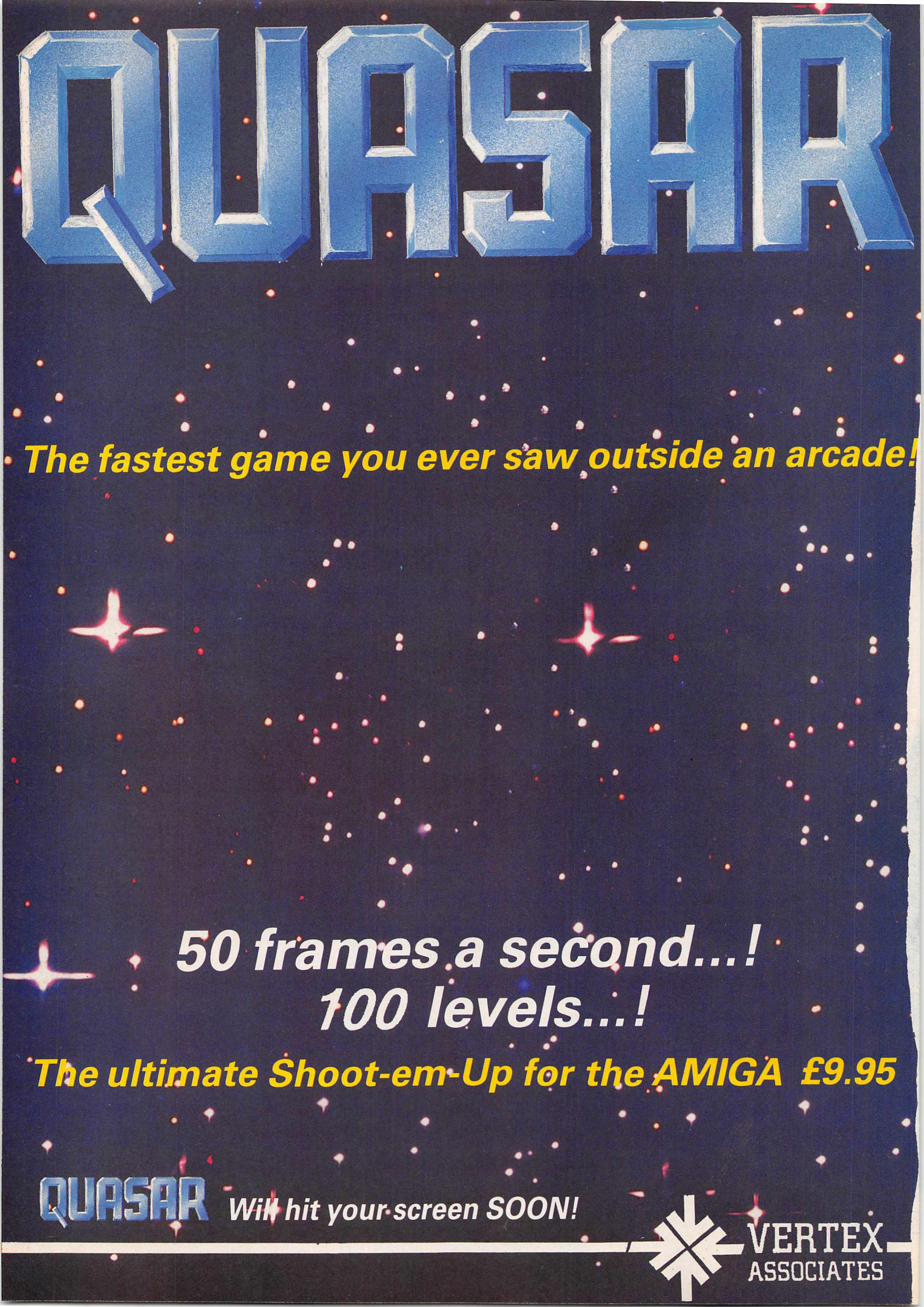


U.S. GOLD ® All American Software

U.S. Gold Ltd.,
Units 2/3 Holford Way, Holford,
Birmingham B6 7AX.
Telephone: 021 356 3388
Telex: 337268

SSI

STRATEGIC SIMULATIONS INC

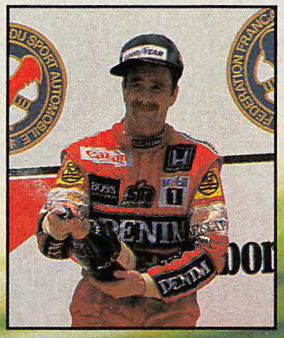

QUASAR
The fastest game you ever saw outside an arcade!
50 frames a second...!
100 levels...!
The ultimate Shoot-em-Up for the AMIGA £9.95
QUASAR Will hit your screen SOON!
VERTEX
ASSOCIATES

NIGEL MANSELL'S GRAND PRIX

"NIGEL MANSELL'S GRAND PRIX" is ready to take you and your computer into the fast lane of game excitement. As well as capturing the speed and adrenalin pumping danger of the world's greatest sporting spectacle, the game is the first racing simulation to reflect some of the enormous advances in car design and technology that have taken place recently.

And yet the game still offers an excellent opportunity for even the most inexperienced novice to blast round the track at excessive speeds with the turbo on maximum boost and not a care in the world for fuel consumption, tyre wear or racing line. However, for those who know, or want to know a little more, there is an opportunity to race a selection of the world's greatest circuits in the quest for valuable championship points.

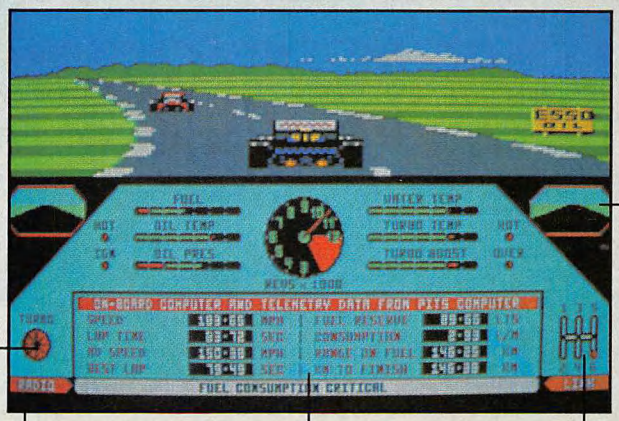
The red lights are on – *you snap into gear.*
The engine roars – *your grip tightens on the steering wheel.*
The crowd goes wild as the lights flash to green.
900 brake horsepower is suddenly unleashed and the Williams hurtles to the first bend.
Ahead of you lies 31 weeks of the world's most gruelling and spectacular sporting championship.



(Technical Consultants – Nigel Mansell, Peter Windsor, Williams Grand Prix Engineering Ltd.)

Nigel Mansell celebrating victory.

Just over half the race completed and you're lying second to your main rival – 0.8 seconds ahead of you.



Produced by
martech

Martech is the registered trade mark of Martech Games Limited,
Martech House, Bay Terrace, Pevensey Bay, East Sussex BN24 6EE
TRADE ENQUIRIES WELCOME. PHONE (0323) 768456 TELEX: 878373 Martec G

Spectrum 48/128	Cassette	£9.99
Commodore 64/128	Cassette	£9.99
	Disc	£12.99
Amstrad CPC	Cassette	£9.99
	Disc	£14.99

Available from all leading software retailers or order today by mail. Prices include postage and packing plus VAT.

FOUR GAME SUPER PACK

LESS THAN £1 EACH

MICROVALUE
FOUR GREAT GAMES - VOLUME 2

Microvalue 2 follows on from the phenomenally successful first release with the quality and value of games better than ever.

CBM64	PYJAMARAMA	FROSTBYTE
	PHANTOM	TOP DUCK
SPECTRUM	BATTLE OF THE PLANETS	STAINLESS STEEL
	DISC OF DEATH	BUBBLE RUN
AMSTRAD	BATTLE OF THE PLANETS	STAINLESS STEEL
	FUTURE SHOCK	TUTS PYRAMID
ELECTRON	MOUSETRAP	MEGA FORCE
	THE GREAT WALL	GUNSMOKE
MSX	EUROPEAN GAMES	QUASAR
	CETUS	BILLY BOPPER
ATARI XL/XE	WHO DARES WINS II	MOUSETRAP
	SPACE HAWK	KILLER CYCLE
CBM C16/+4	JET SET WILLY I	WORLD CUP
	LAWN TENNIS	RAFFLES

MICROVALUE

ADDISON INDUSTRIAL ESTATE · BLAYDON · TYNE & WEAR NE21 4TE · TEL: 091 414 4611

What Poke?

If you've taken advantage of our tips page, you'll be glad to hear of H & D Services' What Poke? booklets. H & D publish three of these booklets; two versions of What Poke?, one for the C64 and the other for the C16/Plus 4, and an adventure handbook. These booklets contain reviews, hints, pokes, maps and other items of interest.

The What Poke? series aims to offer an alternative to the majority of straight computer games publications. They come out every month, the adventure version selling for £1.50 and the others for £1.00. I can recommend them to anyone who enjoys a quick poke. (Oh dear, what have I said?)

Here's an extract from the 64 What Poke? booklet.

Delta:
Load and reset on the title screen before entering the following pokes.

POKE 5693,(0-255) (RETURN) for the number of lives you want for one player option.
POKE 5671, (0-255) (RETURN) number of lives for both players.
POKE 15834, (0-255) (RETURN) for infinite lives.
POKE 15834,173 (RETURN) to keep any acquired weapon.
SYS 6000 (RETURN) to start.
The game must be played with the music or it will crash.

Contact:
H & D
1338 Ashton Old Road
Higher Openshaw
Manchester
M11 1JG

HORGAN'S HINTS

Yes! It's here, the page you've all been waiting for; this month sees the introduction of (cue drum-roll and fanfare) a playing tips section! Every month from now on we'll be giving you the chance to leap tall buildings in a single bound, save the universe in indestructible spaceships, and beat up the hardest of black belts. However, all this can only be possible with your help. Send any tips, pokes (preferably with no reset required), maps etc. to Horgan's Hints, CCI, 40 Bowling Green Lane, London EC1R 0NE. Now on with the tips...

C64

Our first set of pokes comes from Malcolm Murphy of Wigan.

Space Harrier:
To have automatic destruction of all destructable objects, simply reset the computer after loading and type: **POKE 6666,234 (RETURN)** then **SYS 2128 (RETURN).**

I, Ball:
Infinite lives can be yours for the paltry price of one poke! How? Load, reset, and type **POKE 20669,238** then **SYS 4096,** and hey presto!

Gauntlet:
Tired of being scared of ghosts, fooled by sorcerers and splatted by lobbers? Simply load, reset, and type **POKE 49009,96 (RETURN)** followed by **SYS 32768** for hassle-free treasure hunting.

Firetrack:
Track that fire slaughter those aliens, and know no fear with the aid of these pokes. Load, reset and type **POKE 12285,234:POKE 12287,234:POKE 12286,234** followed by a swift **SYS 9216** to start the game.

Mutants:
Those little blobby ones that follow you about can be very tricky. You can now have as many bites at the mutoid cherry thanks to these pokes. Load, reset and type **POKE 9273,234:POKE 9274,234. SYS 4096** starts the game.

The following tips are from Mark O of New Eltham.

Oink:
Pig out on these infinite pimples/rubbish men/ thugs pokes. Load, reset and type **POKE 31991,227:POKE 39923,227:POKE 47774,0 (RETURN)** then **SYS 16384** to restart.

Westbank:
Those dog-gone no-good bank robbers gettin' yer down? Try this unlimited poke for size. Load, reset and type **POKE 12712,165 (RETURN)** and **SYS 4100** to get going.

Jeep Command:
M*A*S*H those nasties and leap those potholes with confidence. Load, reset and type **POKE 32627,241:SYS 16384 (RETURN)** for unlimited buggies.

Nemesis:
Getting some stick from the enemies? This should sort them out. Load the game, select four players and press left shift for immunity to bullets and backgrounds.

Future Knight:
Are you not the knight in shining armour you'd like to be? Hold down keys **BUG87** for unlimited knights.

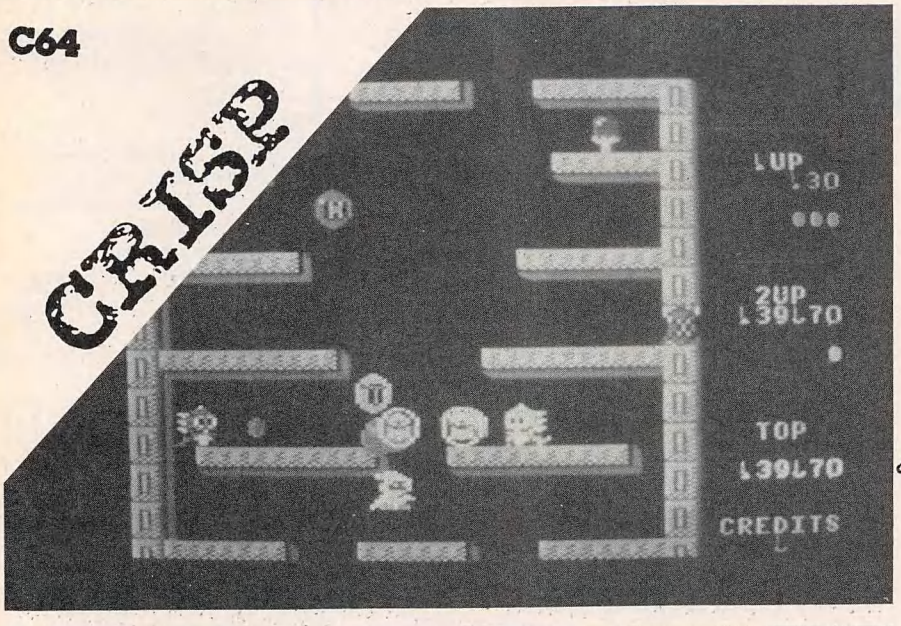
180:
Hear that digitised cry of "180!" three times in one game, in other words a nine dart finish, by holding down rght shift and the space bar.

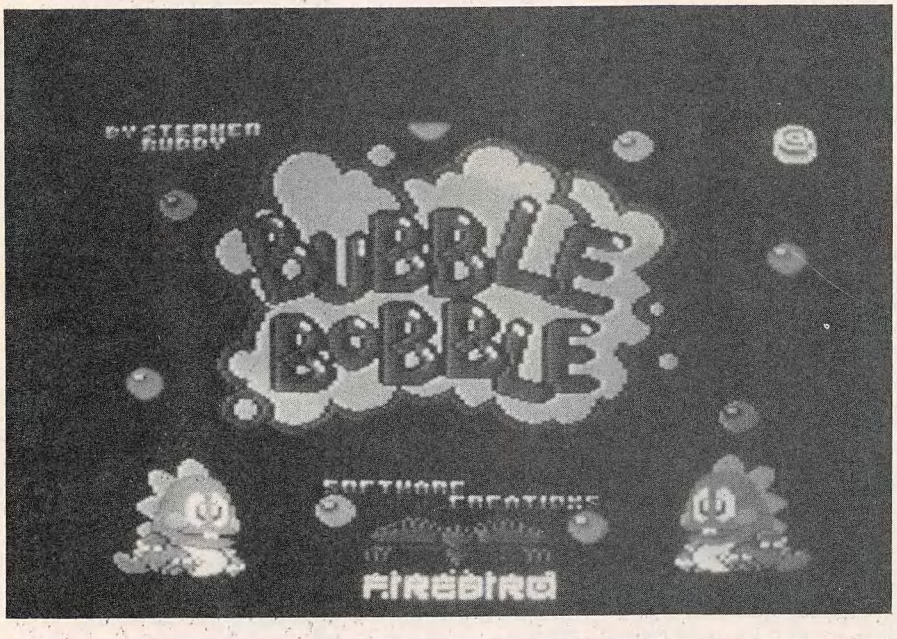
Due to lack of space, we were unable to print all the tips we received, but keep them coming and we'll do our best to include as many as possible, and remember, there's a CCI T-shirt for all those printed, and the best gets a T-shirt, £10, and a free subscription. Tip of the month this month goes to Malcolm Murphy for his Space Harrier poke.

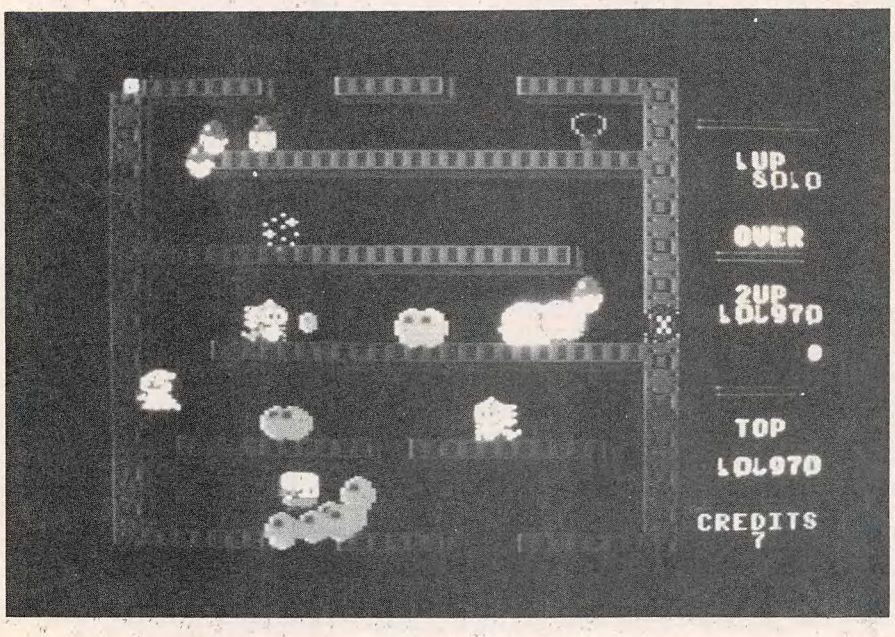
MEGAREVIEW

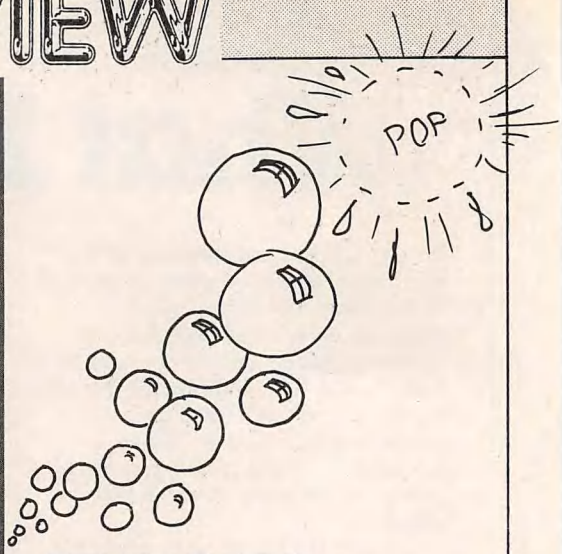
C64

CRISP









Bubble Bobble — Firebird

Bubble Bobble is one of the current arcade hits which seems more suited to home computer conversion than Out Run or other such mega-games, as it relies more on playability than graphics, sound and the like.

Bub and Bob are two midget dinosaurs who don't breath fire as you might expect, but blow bubbles instead. In their quest for their girlfriends, these two must rid 100 screens of various nasties.

Each screen is made up of a pattern of platforms. The nasties patrol the platforms and will kill Bub or Bob on contact. To get rid of these, blow a bubble in their direction, and if they're close enough, they'll float helplessly up the screen, trapped in your bubble. Jump at the bubble, bursting it, and the nasty will be sent spinning, leaving behind a bonus item.

Some bubbles appear containing water, fire, or lightning which wash, burn, or zap out the meanies.

As you would guess, Bubble Bobble is best played in simultaneous two player mode. It also makes the game a fair bit easier to play.

This is a simple game, not that different from Bomb Jack, and is well programmed with attractive graphics, a catchy if not techically outstanding tune, but it's a little too simple for my liking. Fans of the arcade version will definitely find this a conversion worthy of their ten quid, and will also appeal to a good many others.

T.H.

Price: £9.95 (c)
Graphics: ★★★
Sound: ★★★
Playability: ★★★
Rating: Crisp

The 64 Software Centre

1 PRINCETON STREET LONDON WC1R 4AL TEL 01 430 0954

The specialist centre for Commodore 64, 128 and Amiga

Selected items from stock

Software for CBM64/128 d=disk r=cartridge t=tape

ACCOUNTS

Anagram	Sales Ledger (64 or 128)	d £35.00
	Purchase/Nominal Ledger with journal	d £35.00
	Cashbook	d £35.00
Fieldmaster	Sales Ledger (64 or 128)	d £35.00
	Purchase Ledger (64 or 128)	d £35.00
Studio	Payroll 64	d £44.00
	Payroll 128	d £44.00
	Sideways (64 and 128)	d £35.00

STOCK CONTROL SYSTEMS

Anagram	Stock Control (64 or 128)	d £35.00

DATABASE FILING SYSTEMS

Cardco	Mail Now	d £30.00
Digital	Pocket filer 64	d £36.00
	Superpack (Writer, Filer, Planner for 64)	d £75.00
Precision	Superbase (64)	d £40.00
	Superbase (128)	d £60.00
	Superbase Starter	d £20.00
Timeworks	Data Manager 2 (128)	d £40.00
PSI	Fleet Filer 64/128	d £39.00

WORD PROCESSORS

Broderbund	Bank Street Writer	d £49.00
Cardco	Write Now	r £49.00
Digital	Pocket Writer 64	d £36.00
	Pocket Writer 128	d £44.00
	Pocket Writer 64/128 v.2	d £49.00
	Superpack (Writer, Filer, Planner for 64)	d £75.00
Precision	Superscript (64)	d £49.00
	Superscript (128)	d £60.00
PSI	Fleet System 4 (WP, Database) 128	d £75.00
Tasman	Tasword 64	d £19.00
	Tasword 64	t £17.00
Xetec	Fontmaster II (64 or 128)	d £60.00

SPREADSHEETS

Cardco	Calc Now	d £30.00
Digital	Pocket Planner 64	d £36.00
	Pocket Planner 64 or 128 v.2	d £49.00
	Superpack (Filer, Writer, Planner for 64)	d £75.00
Fieldmaster	Worksheet	d £10.00
F.P.	Powerplan	d £40.00
Practicorp	PS Spreadsheet	d £15.00
	Practicalc II	d £30.00

AIDS & UTILITIES

Access	Mach 5 Fastload	r £20.00
Abacus	Chartpak 64	d £24.00
	Chartpak 128	d £39.00
	Cadpak 128	d £49.00
	Cobol 64 or 128	d £49.00

MOUSE

M1	Mouse (Geos compatible)	£46.00

INTERFACES

Xetec	Supergraphics Senior	r + cable £80.00
	Supergraphics Junior	r + cable £50.00
Cardco	SuperG graphic interface	r + cable £39.00

	Basic 64 Compiler	d £39.00
	Basic 128 Compiler	d £49.00
	Super Pascal 64	d £49.00
	Forth	d £29.00
Berkeley	Geos	d £45.00
	Geos 128	d £57.00
	Fontpack 1	d £24.00
	Deskpack	d £27.00
	Writers Workshop	d £38.00
	Geodex	d £29.00
	Geoprint parallel cable	d £30.00
	Geofile	d £38.00
Broderbund	The Printshop	d £33.00
	Graphics Library (1, 2 or 3)	d £18.00
	Holiday Graphics	d £18.00
	The Printshop Companion	d £30.00
CAD	Graphics Transformer	d £29.00
Cardco	S'More (22K extra Ram, Toolkit)	r £49.00
CSM	1541 Disk Drive Alignment Program	d £44.00
Evesham	DolphinDos	r £69.00
	Freeze Machine	r £28.00
F.P.	Pascal 64	d £15.00
Oasis	Laser Basic	d £19.00
	Laser Basic	t £15.00
	Laser Compiler	d £25.00
	Laser Compiler	t £19.00
OCS	Oxford Pascal 64	d £34.00
	Oxford Pascal 128	d £49.00
Orpheus	Cad 64	d £20.00
Practicorp	64 Doctor	d £12.00
Precision	Supertype	t £15.00
RW	Merlin 64 Assembler	d £49.00
	Merlin 128 Assembler	d £69.00
Springboard	The Newsroom	d £49.00
	Clip Art 1	d £25.00
	Clip Art 2	d £27.00
	Clip Art 3	d £27.00
Skyles	Victree	r £30.00
Suncom	The Animation Station (Graphic Tablet)	d £79.00
Supersoft	Zoom monitor	d £12.00

MUSIC SYNTHESIZERS

Access	Master Composer	d £39.00
Broderbund	Music Shop	d £49.00
Firebird	Music System	d £17.00
	Music System	t £15.00
	Advanced Music System	d £29.00
Supersoft	Music Master	d £10.00

CHESS

CDS	Colossus 4	d £14.00
	Colossus 4	t £10.00
SC	Chessmaster 2000	d £33.00

BRIDGE

Artworx	Bridge 4	d £29.00
GGP	Bridge Baron	d £35.00

EDUCATIONAL

Dell	Essential Italian	d/t £14.00
Broderbund	The Toyshop (20 working models)	d £40.00

UK and Europe - Prices include VAT, Add £2.00 P&P
Other countries - Prices exclude VAT but add 20% to above prices (air)

IMPACT

Audiogenic Price: £14.95

The Amiga is one computer that doesn't have a wealth of Arkanoid games. The only existing one that comes to mind is is Anco's Demolition. That is about to change with the release of Impact, and the official Arkanoid due to hit the streets before the end of the year.

Audiogenic's Impact is one of these Arkanoid lookalikes. Set in a 1970's arcade machine, you must escape through the 80 screens of multi-coloured bricks and strange creatures. Controlling the usual bat, you bounce the ball off the bricks, collecting tokens that drop down. Catching one moves the add-on indicator one place further.

There are no big differences between Impact and most other Arkanoid clones except for the construction kit which allows user-defined screens. One original in-game feature is the way the ball's position on the bat can be chosen before the first shot or after catching it.

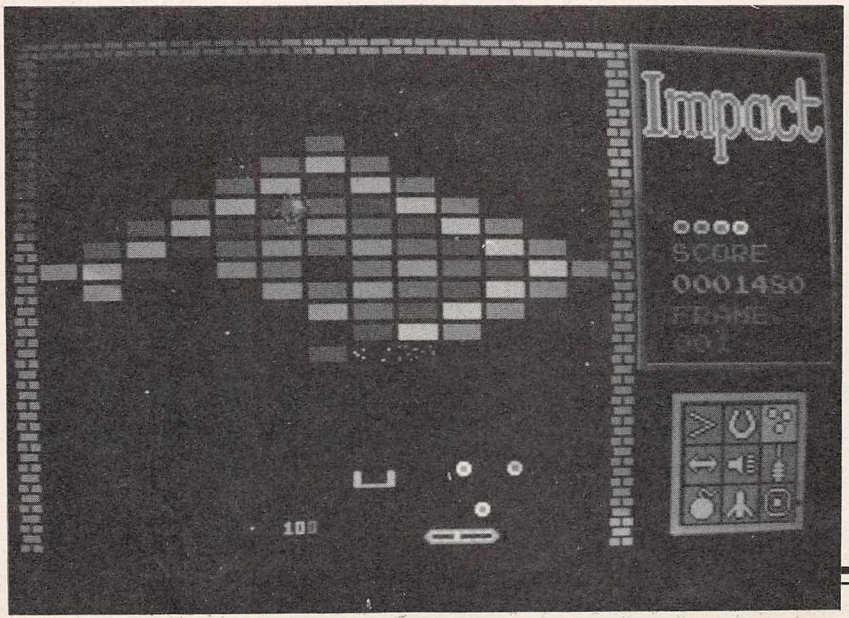
As each brick is hit, a melodic chime is emitted, and combines with the other excellent digitised effects to make a kind of music.

The sprites are detailed, but small, and the overall graphic effect is neat, simple and agreeable.

The inclusion of a screen designer is a good idea, and will add to long term enjoyment.

Impact is probably as good as any Arkanoid game can be, but I can't help feeling I've done it all before. Nevertheless, Impact is a great game in its own right, and deserves attention even from those in possession of an Arkanoid style game.

T.H.



TURTLESOFT

AMIGA HARDWARE

★ STOP PRESS ★
PHONE FOR SPECIAL DEALS

	RRP	OUR PRICE
Amiga A500 Keyboard/Mouse/Drive	£499.99	**£449.95**
Amiga A500 + A520 Modulator	£524.98	**£469.95**
Amiga A500 + Philips 8533 Colour Monitor	£819.94	**£709.95**
Amiga A500 + Philips 8833 Stereo Colour Monitor	£829.94	**£719.95**
Amiga A500 + Cumana CAX354 Second 3.5in Drive	£649.94	**£559.95**
Amiga A500 + Cumana 3.5in Drive + Philips 8533 Colour Monitor	£969.89	**£819.95**
Amiga A500 + Cumana 3.5in Drive + Philips 8833 Colour Monitor	£979.89	**£829.95**

★★ All Amiga A500 come with a FREE Sports Bag, GFL Football, Baseball & Golf ★★
★★ As well as Delux Paint, Basic, Workbench, Utilities, Manuals and Tutorial ★★

AMIGA PERIPHERALS

	RRP	OUR PRICE
Amiga A1010 Second 3.5in 880k Disc Drive (A1000 or A500)	£249.95	**£209.95**
Cumana CAX354 880k Drive 3.5in (A100 or A500)	£149.95	**£119.95**
Amiga A1084 Colour Monitor (NEW MODEL)	£379.95	**£339.95**
Philips CM8833 Stereo Colour Monitor + Lead	£329.95	**£279.95**
Philips CM8533 Colour Monitor + Lead	£319.95	**£269.95**
Philips CM8852 Colour Monitor + Lead	£349.95	**£299.95**
Amiga A521 Modulator (To connect To TV)	£24.99	**£22.99**
Amiga A501 512k-1040k Ram Upgrade + Clock	£113.85	**£99.95**
Panasonic KXP-1081 Printer, Epson Codes. NLQ. 120CPS + Lead	£279.95	**£174.95**
MP165 Printer, Epson Compatible. NLQ. Draft 165CPS + Lead	£263.35	**£199.99**
MP135 Printer, Epson Compatible. NLQ. Draft 135CPS + Lead	£194.35	**£159.99**
MP200 80 Col Printer, 200CPS. Epson Codes. NLQ 40CPS + Lead	£343.85	**£294.99**
MP201 136 Col. Printer, 200CPS. Epson Codes. NLQ 40CPS + Lead	£401.35	**£329.95**
MP480 80 Col. Printer, Epson Codes. NLQ 480CPS + Lead	£424.35	**£339.95**
MP26 132 Column Daisywheel Printer, 26CPS + Lead	£299.95	**£249.95**
MP40 158 Column Daisywheel Printer, 40CPS + Lead	£435.85	**£349.95**
Midi Master Interface (State A1000 or A500)	£34.99	**£29.95**
DSDD 3.5in Discs + Library Case (10) — LOW LOW PRICE	£22.95	**£14.95**
Quality Branded 3.5in DSDD Discs (10) — LOW LOW PRICE	£27.95	**£18.95**

SPECIALS (Limited Stocks)

	RRP	OUR PRICE
Amiga A1081 Colour Monitor	£349.95	**£309.95**
Commodore C128 + Tape Recorder + J/Stick + Software	£269.99	**£229.95**
Commodore 64C Sports Pack (64C, 1530, J/S, Sports Bag, 5 Games)	£199.99	**£169.95**
Commodore 64C Computer only	£169.99	**£139.95**
Commodore 1530-1 Tape Recorder	£44.95	**£34.95**
Commodore 1541C New Disc Drive + FREE GEOS + 10 Discs	£199.99	**£169.95**
Commodore 64 Mouse & Software (NEOS)	£24.99	**£19.95**

TURTLE PRICES ARE THE ONES TO JUDGE THE COMPETITION BY
WE ARE SURE YOU WON'T FIND LOWER PRICES AND FREE DELIVERY
FIRST CLASS SERVICE AT FIRST CLASS PRICES

AMIGA 500/1000 GAMES SOFTWARE	RRP	OUR PRICE
Adventure Construction Kit	£29.95	£20.95
American Football	£24.99	£16.95
Amiga Karate	£19.95	£13.95
Archon	£29.95	£20.95
Archon II	£29.95	£20.95
Arctic Fox	£19.95	£13.95
Arena/Brataccus Pack	£34.95	£23.95
Balance of Power	£29.95	£20.95
Barbarian	£24.95	£16.95
Bards Tale	£24.95	£16.95
Baseball	£24.99	£16.95
Basketball	£24.99	£16.95
Bureaucracy	£34.99	£23.95
Chessmaster 2000	£24.95	£16.95
Crunch Factory	£9.99	£6.99
Deep Space	£34.95	£23.95
Defender of the Crown	£29.95	£20.95
Deja Vu	£29.95	£20.95
Demolition	£9.99	£6.99
Faerytale Adventure	£49.95	£37.95
Flight Simulator II	£49.95	£37.95
Flight Simulator Scenery Disc	£24.95	£16.95
GoldRunner	£24.95	£16.95
Golf	£34.95	£23.95
Guild of Thieves	£24.95	£16.96
Hacker	£24.95	£16.95
Hacker II	£24.99	£16.95
Hardball	£24.99	£16.95
Hitchhikers Guide	£29.99	£20.95
Hollywood Hijinx	£29.99	£20.95
Hollywood Strip Poker	£19.95	£13.95
Impact	£14.95	£10.49
Kampfegruppe	£29.99	£20.95

AMIGA 500/1000 GAMES SOFTWARE	RRP	OUR PRICE
Karate Kid Part II	£24.95	£16.95
King of Chicago (Soon)	£29.95	£20.95
Knight Orc	£19.95	£13.95
Land of Legends (Soon)	Phone	Phone
Leaderboard (Not A500)	£24.99	£16.95
Leaderboard Tournament	£9.99	£6.99
Leather Goddesses of Phobos	£34.99	£23.95
Marble Madness	£19.95	£13.95
Mean 18 Golf	£29.95	£20.95
Mech Brigade (Soon)	£29.99	£20.95
Mouse Trap	£14.95	£10.49
Ogre	£24.99	£16.95
Pawn	£24.95	£16.95
Phalanx	£9.99	£6.99
Phantasie III	£24.99	£16.95
Plutos	£14.95	£10.49
Portal	£34.99	£23.95
Roadwar 2000	£29.95	£20.95
S.D.I.	£29.95	£20.95
Shanghai	£24.99	£16.95
Silent Service	£24.95	£16.95
Sinbad & Throne of Falcon	£29.95	£20.95
Sky Fox	£14.95	£10.49
Space Battle	£9.99	£6.99
Star Glider	£24.95	£16.95
Super Huey	£19.99	£13.95
Swooper	£19.95	£13.95
Tass Times	£24.99	£16.95
Temple of Apshai Trilogy	£24.99	£16.95
Terrorpods	£24.95	£16.95
Uninvited	£29.95	£20.95
Wizards Crown (Soon)	£29.99	£20.95
Zork I, II & III each	£29.99	£20.95

AMIGA 500/1000 BUSINESS/ UTILITY SOFTWARE	RRP	OUR PRICE
Aegis Animator/Images	£103.50	£83.95
Aegis Artpak I	£23.00	£18.99
Aegis Digal (Comms S/Ware)	£59.95	£46.95
Aegis Draw	£69.95	£55.95
Aegis Draw-Plus	£184.00	£149.95
Aegis Impact	£63.25	£51.95
Aegis VideoScape 3-D	£143.75	£116.99
Aegis-Sonics	£59.95	£46.95
Cambridge Lisp MCC	£149.95	£116.95
CLImate	£34.95	£27.99
Delux Music Construction	£69.95	£49.95
DigiPaint	£49.95	£39.95
Instant Music	£29.99	£20.95
K-Seka 68000 Assembler	£79.95	£63.95
Lattice C Ver. 3.10 (Standard) MCC	£189.95	£139.95
Lattice C (Developers) MCC	£299.95	£249.95
Marauder II	£34.95	£22.95
MCC Macro Assembler	£69.96	£54.95
MCC Pascal	£89.95	£69.95
MCC Shell	£49.95	£38.95
Modula 2 (Standard)	£99.95	£77.95
Modular 2 (Developers)	£149.95	£116.99
Music Studio	£34.99	£23.95
Pagesetter	£113.85	£99.95
PAL Video Digitiser	£199.00	£184.95
PAL Video Digitiser Adaptor (A500/A2000)	£24.95	£21.95
Pro-Midi Interface (for below)	£59.95	£49.95
Pro-Midi Studio Software	£185.00	£149.95
Scribble II	£89.95	£69.95
Soundscape Sound Digitizer	£124.95	£99.95
Superbase Personal	£99.95	£79.95
Word Perfect (NEW)	£293.25	£254.95
Zuma Fonts Vol 1, 2, 3 (each)	£39.95	£31.95

Post: Send Cheques/P.O. or Visa/Access details to the address below. Phone: Call 0476 60488 24 Hour Service with your Visa/Access details.

Turtlesoft Dept CC15, 35 Brook Street Courtyard, Grantham, Lincs. NG31 6RY

Subject to availability, all items are despatched within 24 Hrs. E&OE.

Just because you don't see it — Doesn't mean we haven't got it — Call for Details!

C64

MEGA

Jack the Nipper II — Gremlin

Jack was such a trouble maker in his last game that he was deported to Australia. None too happy with this, Jack bailed out of the plane somewhere over the African jungle, using his nappy as a parachute. Dad followed on behind in hot pursuit (what *he* used to break his fall I dread to think). Donning his cool shades, Jack sets out to make even more mischief in the jungle.

The jungle is no place for a tiny tot but Jack is no ordinary nipper. It takes more than a few mad natives and wild animals to scare him!

Unlike most sequels, Jack II is significantly different from its forerunner. Jack has the same character, but the gameplay is more arcade orientated than problem solving, and has somme similarity with the successful Future Knight.

Pink from the hot sun, little Jack starts his rampage on the edge of a cliff, standing in the entrance of a torch-lit cave. Presumably to ward off intruders, the natives have set booby traps in the form of spikes that poke up and down from the ground. Some of these are easily jumped, but others can be very tricky and sharp!

A short way into the cave you come across a bag, which is in fact, as the accompanying jingle informs you, 'a lovely bunch of coconuts.' These come in handy for lobbing at those horrid natives. Further exploration reveals an excellent technical touch as Jack walks through a dark tunnel. The screen blacks out with only part of Jack lit up by a flickering torch.

As you progress through the jungle and caves, the background colour changes to suit the scene. The cave graphics are in a very similar style to those of Ghosts 'n' Boblins, as is the general feel of the game, with, as in appropriate for Gremlin, a a touch of the great Monty about them.

The jungle is full of dangers. Vines to be swung on, puddles to be jumped, all the inhabitants and lots of tall trees to fall from and deep pits. How does Jack manage to avoid splatting himself after big falls? He whips off his nappy, covers his bit with his hands, and gently floats downward. On private landing he turns away and makes himself decent once more.

The screen scrolls at a fairpace and is as smooth as it can be. Background graphics are attractively drawn, and the sprites are pleasant if, apart from Jack, not particularly well animated.

Throughout the game there are excellent little jingles when objects are collected, even if the sound effects and title sceen music aren't up to the same standard.

I'm not sure if Jack II will appeal to particular fans of Jack I, as the game is rather different, but will be enjoyed by many more than the original because it's easier to get into and play straight away. If you're feeling naughty, go out and get Jack the Nipper II and run riot with your joystick.

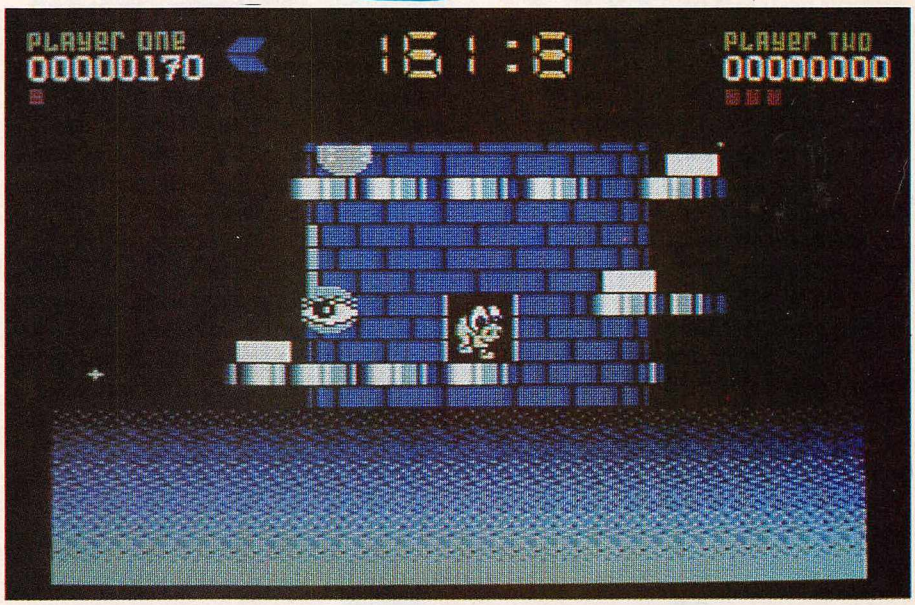
T.H.

Graphics: ★★★★
Sound: ★★★★
Playability: ★★★★
Rating: MEGA
Price: 9.99 (c) 14.00 (d)

C64

MEGA

NEBULUS!



Nebulus — Hewson

Originality is something rarely seen in computer games these days. Nebulus gives an alternative to scrolling through waves of aliens, shooting the hell out of anything that moves.

The idea of Nebulus is to reach the top of each tower. These towers are built in fishy ocean.

You control a cute little green creature with the ability to shoot, jump, walk and hop up steps. On the outside of the towers are platforms, lifts, doorways, and nasties patrolling. The platforms make stairways encircling the towers, some of which disappear when stepped on. Lifts are self-explanatory, doorways lead through to the opposite side of the tower and nasties give our little friend a shock, sending him spinning into the air.

The first thing that hits you is the incredible way the tower rotates as you walk round it, an excellent diversion from the standard scrolling of flip-screen background. Nebulus is really a platform game played on a rotating tower, but this is by no means a bad thing, as this effect really does add another dimension.

When the top of a tower is reached, it collapses Uridium-style. Next follows a bonus screen set under the shrimp inhabited ocean. Parallax scrolling is used to great effect, giving the impression of a 3D background. Here you have to shoot the fish, encapsuling them, before collecting them.

Each tower has a different colour scheme, and a different layout of platforms, doors and lifts. The first couple of towers don't present too much of a mental strain, but the third took me a fair while to get any distance up it. In fact, it took someone else to tell me how it's done.

The rotation effect of Nebulus is amazingly realistic, and makes the game a pleasure to play. To add to this, the main sprite is very detailed with nice animation, and the others aren't bad either. These graphics are complemented by good music and sound effects.

Fortunately, Nebulus is as good to play as it is to look at, and although it can be frustrating, Nebulus will give hours of fun and its fair share of puzzling. This is an original concept, superbly executed, and mustn't be missed by anyone wanting something a little different.

B.V.

Price: (c) £8.95 (d) £12.95
Graphics: ★★★★★
Sound: ★★★★
Playability: ★★★★
Rating: Mega

Welcome to the World of Adventure — with Andy Moss!

COMMENT

After five complete nine hour days of foot slogging around stands ranging from the small and personal to the huge and quite over the top, I came to the end of my PCW week in two minds. On one hand, there were signs that in the coming twelve months we will be getting some truly mouthwatering adventure and strategy products that really will take us into another dimension of technical achievement. On the other hand, this years show seemed to mark the end of the traditional "one man band" operation. The pioneers that brought about the home games revolution have most certainly and inevitably been swallowed up in the wave of mega big companies who have latched on to the computer bandwagon. It wasn't so long ago that I remember PCW packed out with small independent software houses all showing their new releases, keen to give the Press any samples of their new soon to be best sellers for review. My carrier bags used to be full of new tapes and disks given to me with cries of "just you look at that one", which I duly did and wrote about it there and then.

Todays PCW has been taken over by what I call "the suit brigade". This new breed of super Italian clothed salespersons, represent multi million pound organisations that have some of the best programming talent in the world working for them. Now the word is, "watch the video, see the demo, and we will get the finished product to you via our PR agency in around two months". The Industry has grown up, that's for sure, but I yearn for that personal touch that has deserted it; will it return? Who knows, maybe after the "suits" have pecked away at the body until just the carcass is left, then we will see.

Just to restore my faith in the Independents, it was nice to see Level Nine on their own simple stand on opposite sides of the Hall to Rainbird, and I stopped by Incentives stand who were proudly showing off their Gold Range of GAC adventures, and a new graphic system entitled Freescape. As far as the big guns were concerned Mirrorsoft were proud to show me the latest Cinemaware Products and write an Interview with Bob (Defender of the Crown) Jacobs the President of Cinemaware, who was keen to show off his new game — King Of Chicago. Also there was Mirrorsofts other title, Bermuda Project, (written by Eugene Evans — ex Imagine). On the wargaming side PSS, Mirrorsofts latest tie up were rustling up interest in their Winter releases and SSI courtesy of Jerry Howells were doing the same. Activision had Infocom going strong, and Domark were proudly presenting Jeffrey Archers Not a Penny More Not A Penny Less as a new style text adventure that follows the book in true fashion.

Notable absentees were Ariolasoft, Infogrames (although David Crosweller assured me that they will be there next year, after bumping into him on stand 165788!) and Magnetic Scrolls in person.

On to this months' sortie into Middle Earth, and my thanks to Angus Manwaring for sending me his Quilled adventure Fade Out and also Malcolm Gallon for his game called Crime Does Not Pay. I review both later on, thanks for sending them in, and look forward to anyone else having a go. Tell you want, the first person to get 9 marks from me will get a prize OK? As promised this month there is a bumper help section along with the first of the Zork maps that should have appeared back in July. Read on brave adventurers help is at hand.

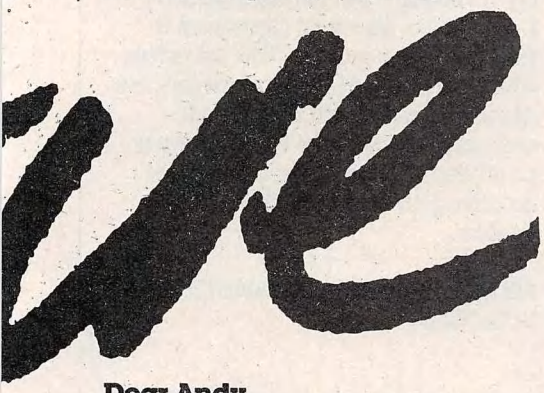
MAILBAG

Dear Andy
WHAT!!!!... Gauntlet a D&D game? Let me tell you something about computer D&D games. There are only 2 in existence and they are Dungeon Master, and the excellent Bards Tale. D&D is about interacting with your computer in believable (almost) situations. The Bards Tale lets you plan your battles using hand to hand combat or any number of the 85 different spells, or use one of dozens of magical items to be found after

Adventu

a battle in any of the 7040 locations in the dungeons alone. Bards has everything that Gauntlet has only bigger, better and more including traps. You can choose your race, class and name not just 1 of 4 tiny sprites that runs around the screen fighting hundreds of bed sheets. Bards has 128 different monsters all shown 3 inches or so high in detailed splendour. I finished Bards Tale on Jan 2 after 3 weeks of 12-16 hours per day on it, it had my heart thumping in places and nearly wrecked my marriage! Gauntlet is NOT a D&D game.
Carl Young, Nottingham

Quite. Hmmmm I think you win first prize in the see how many times I can mention Bards Tale in a letter competition. I may be wrong but I think you rather like Bards Tale, Carl, and so do I mate. Bards Tale is a very clever game, and Bards Tale 2 is even better. In my defence I actually said that Gauntlet was an arcade game (which it is, unlike Bards Tale) and brings you the true spirit of D&D by plunging you into the dungeons and fighting for real not just typing ATTACK row 1 as in Bards Tale. I enjoy playing Gauntlet as a bit of fun, and Bards Tale as serious role playing. (I said Bards Tale more times than you so I win. AM



Dear Andy
I am not a budding adventurer but when I won a copy of KWAH in a CCI competition I decided to give adventures a go. Weeks later, I still haven't got past the first location. My question is how do you get through the drive gates? I know it has to do with the camera but I can't pick it up or use it. Please stop sniggering and help out a novice.
Matthew Tipple, Tyne & Wear

It is a shame that you picked Kwah to play as your first adventure Matthew as it can be bit tricky to get to grips with. You are right though, the camera is the key to getting in. When you start you are Red Hawk, change to Kevin and you will find you are carrying a press pass. Put pass under camera and the gates will open. AM

Dear Andy
I read in the Sept 87 issue that you will review "home made" adventure games. I have written one, but could you please answer a few questions before I send it to you. First, I wrote the adventure using Incentives GAC, do you mind this and do you think it gives the game any less value commercial or otherwise. Second will you accept disk or tape? Will you return the disk or tape, and third should I send in a map list of commands and solution etc.
Derek Morris, Swansea

First Derek, well done for using the GAC, it is a fine system and can provide some fun adventures. It can be of commercial interest, look at Incentives own series of Gold adventures which are all written using GAC. Second, either will do. Third, although I love to play adventures all the way through, it would mean that deadlines would not be met and no adventure pages would appear, so sending in a hint sheet helps me get to the latter stages quicker than plodding on on my own. AM

Dear Andy
We own the Zork Trilogy and have subscribed to CCI for several years. I enjoyed playing Zork 1 but got stuck so Zork II and III remain unopened. The June edition promised a Zork map and I nearly cried for joy. Unfortunately it did not appear nor in the next issue, what happened!! I beg you to print it.
Peter Ward, Northants

Sorry about that Peter, lack of space I am afraid was to blame. Cheer up though cos this month we got it!! AM

Dear Andy
Last year I bought Zork I and II. Please could you help. How do I stop the Maintenance room from flooding and how do I inflate the pile of plastic. In Zork II how do I get past the circular room and where is the three headed collar for Cerebus?
Jonathan Dale, Derbyshire

All is revealed this month Jonathan in the help section so if I was you I would stop reading this and turn to it NOW!!! AM

Dear Andy
I need your help, I seem to have come across a problem in Guild of Thieves. I have obtained a score of 365 and put all the treasure I can find in the bank. It rejects all that I have left. The gravedigger gives me no response, I can't open the door to the roof or find a way through the wall at the top of the Temple. Also there are lots of items that I cannot find uses for. Please help.
John Bartlett, Cornwall

Your problem at the bank John is a major bug that cropped up in early versions of the game. What you must do is replay the game up to the Minah bird and only use up to 8 characters in your sentences when talking to it. If you use more than this, the bug comes in and the bank will not take treasure. In fact you have done it all, so just put in the rest of the treasure and you will get 501 points.
In all Magnetic Scrolls games there are lots of items with no use to them. AM

ADVENTURE NEWS

SSI AND TSR IN CO LICENSE TIE UP
TSR the games world giants responsible for the classic best selling fantasy role playing game systems Dungeons and Dragons and Advanced Dungeons and Dragons have announced a major deal with

CONTINUED-PAGE 110

Adventure!

SSI. The license which will run over the next 5 years will see games being produced by both US Gold and SSI. This promises to be a very exciting development in the field of computer fantasy role playing and if TSR can bring their games successfully over to computer we will have some excellent adventures to play.

DOMARK AND JEFFREY ARCHER
At this years PCW Domark announced news of SAGA their new system of presenting novels as computer games — Speech and Graphical Adventure. The aim is to include as much visual detail in the game as possible, backed up with digitised speech.

NOT A PENNY MORE NOT A PENNY LESS Jeffrey Archers best seller is the first book to be given the full treatment using the new system. You are guided through the plot — unlike most adventures which are more free form, this game is based very closely on fictional events catalogued in the novel. Puzzles have to be solved in each location before you can move on and you can't back track if you fail to spot an important clue. Text only purists are catered for as the graphics can be switched off, but it would be a shame as there are nearly one hundred photos of the actual locations mentioned in the book. Retailing at £14.95 and due out early October.

INFOCOM SET TO CHALLENGE MILLS AND BOON
PLUNDERED HEARTS, Infocoms new title heralds the companys entry into a romance genre. This is the first story in which you the main character are a woman (unlike Leather Goddesses and Moonmist where you had a choice) and where the action is distinctly romance spliced with adventure on the high seas. This on the outset may appear a bold move, as women tend to be a relatively small segment of the home computer market, yet author Amy Briggs has managed to create a title that is equally appealing to men. The response of pre release testers, the majority of them whom are male, was overwhelmingly favourable. Watch for the review next month.

BEYOND ZORK — AN INFOCOM ROLEPLAYER IMMINENT
It all seems to be Infocom this month as news of Beyond Zork is made available. This is not a sequel to the Zork Trilogy, but a new chapter in the lore of The Great Underground Empire. Due to civil disorder the wizards have all disappeared, and it is left to one brave adventurer to reclaim and hide the fabled Coconut of Quendor, within whose time impervious shell lies the essence of magic. As a dedicated role player, Beyond Zork lets you create a character with defined attributes which will become more powerful as the game goes on. More details next month.

PSS IN MAJOR AUTUMN PUSH
After their distribution deal with Mirrorsoft, PSS announce details of their Autumn schedules which include 10 new titles in their Wargamers series. Annals Of Rome, where the game objective is the expansion of the Empire and survival, Pegasus Bridge a D-Day simulation, Sorcerer Lord a magic and sorcery role player, Classic Conflicts — Tobruk — Okinawa, Power Struggle, a two player real time game of superpower politics, Battlefield Germany, a modern day warfare game using advanced AI techniques, Firezone, and Final Frontier, 21st Century scenarios, and finally, Fortress America where the player takes the role of US President against the Soviet Premier. All will be fully explored in this space shortly.

EXCLUSIVE EXCLUSIVE EXCLUSIVE EXCLUSIVE EXCLUSIVE EXCLUSIVE EXCLUSIVE

INFOCOM TO RELEASE BORDERZONE, A POLITICAL SPY THRILLER
News hot from the old USA is that Infocom already with Plundered Hearts and Nord and Bert just released, are soon to have Borderzone available, and it sounds just fabulous. The game is actually set in three parts, and begins on a train in Eastern Europe. The first part deals with the player as an ordinary businessman whose world is plunged into danger and espionage when he meets an American agent covered in blood on an express train. The agent passes him vital information which has to be delivered to the CIA in the States. The adventure then is to get to America and deliver the info without getting killed. In Part two, the player then becomes the original bloodstained and injured agent and continues his story after he has passed on the info. He has to somehow get out of the country on foot, hotly pursued by a deadly Soviet agent. In part three, yes you guessed it you play the part of the Russian agent in his quest to capture the elusive American spy. It all sounds absolutely terrific, and promises to be Infocoms most exciting to date. Watch this space.

MESSAGE FROM MAGNETIC SCROLLS

ANITA SINCLAIR HAS ASKED ME TO INFORM YOU OF A BUG IN GUILD OF THIEVES. WHEN TALKING TO THE MINAH BIRD ONLY USE 8 CHARACTERS IN THE SENTENCE OTHERWISE THE BANK WILL SHUT. ALSO SHE WANTS TO REMIND ALL OWNERS OF GUILD TO SEND IN THEIR BURGLAR FORMS SO THEY CAN SEND YOU SOME GOODIES IN RETURN

CONTINUED ON PAGE 112

THE AMIGA CENTRE

77/79 Rochester Row. London SW1

01-931 7161

VIDEOSCAPE 3D
@ £159 incl VAT

PRO VIDEO GT
@ £159 incl VAT

TV TEXT
@ £79 incl VAT

SCULPT 3D
@ £79 incl VAT

FLIGHT SIMULATOR 11
@ £40 incl VAT

Monday-Saturday 10.00 am/6.00 pm
Access/Visa/Eurocheques accepted
Postage & Packing (UK, Europe) :add £2

Adventure!

HELP AND HINTS DEPT

ZORK I

The Egg
Only the thief can open the egg, give it to him or leave it underground where he will find it.

The Troll
Kill him with the sword.

The Maze
There are 22 rooms WEST of the Troll room.

The Cyclops
The Cyclops is scared of the name of his fathers nemesis, Odysseus or Ulysses. You get this from examining the commandment in the black book.

The loud Room
Type ECHO.

Entering Hades
Ring the bell, light the candles and read the black book.

The Rainbow
Raise or wave the sceptre whilst standing at the end of the rainbow.

Lighting the Drafty Room
The lamp can be placed in the basket, which in turn can be lowered or raised.

To Kill The Thief
As you gain points you become a better match for him.

The Stone Barrow
When you get 350 points you can enter it.

The blue button causes a pipe to burst in the maintenance room, use the gunk to stop the leak. The platic pile can be inflated using the air pump.

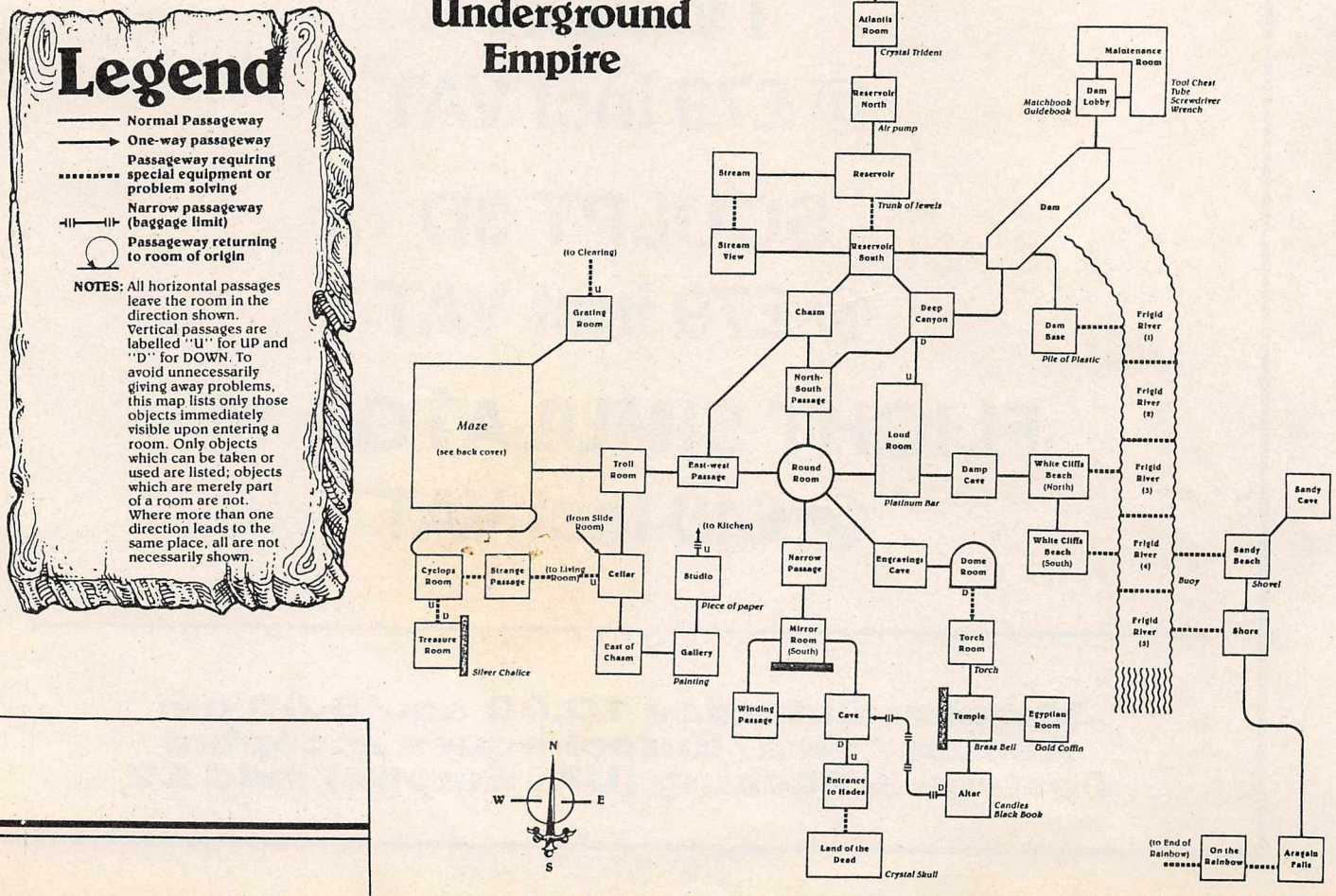
LORD OF THE RINGS

The Barrow Wight
To defeat him you need to rob him of everything then throw an elf stone at him.

Moria
Cannot be entered without Gandalf.

To Cross the Ford
To cross the Ford at Rivendell you must ride the white stallion. Tell it where to go, and discard it once you have crossed over.

Radagast
He can be found in the Blue mountains observatory to the west of Hobbiton. Do not kill the monk.



Adventure! ....CONTINUED

LEATHER GODDESSES OF PHOBOS
The Sultans Palace
The laundry room will get you the clothes pin.
In the Minaret the floor will collapse creating an exit from the cramped space.
If the Sultan keeps killing you, you must answer YES when asked if you are ready for the riddle.
The answer to the riddle is RIDDLE.
The Harem guard can be passed by giving him the answer backwards type ANSWER 123.
In the Inner Harem ask her to do what the secret message tells you to ask.

PLANETFALL
At station 384 you have to shoot the speck a number of times to destroy it.

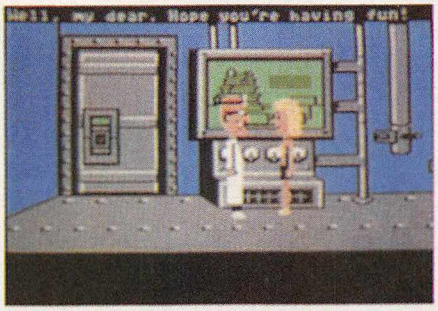
ADVENTURE REVIEWS

ZODIAC/SEARCH FOR THE SECRET OF LIFE
Incentive double gold — £7.95
As time goes on, I find myself gaining more and more respect for Incentives GAC system. It is fast, colourful and inexpensive, and put in the right hands can create some really nice adventures. Double Gold in a series of "Two for the price of one" tapes all using GAC as the adventure system.

ZODIAC is all about the evil wizard Ramus, who intends to destroy you and your tribe of ancient warriors unless the tribe manages to find a way to banish him. This of course can be found in the signs of the zodiac, which, so legend has it, provide defence against evil. The game relies heavily on the Find object/solve puzzle variety and there are plenty of strange objects scattered about. Quite what a pair of wellies and a machine gun are doing lying about is beyond me, but if you overlook the slightly unreal element, and just enjoy cracking the puzzles, the game is fun.

THE SECRET OF LIFE is a three parter about the search for exactly that. You the adventurer have been told that the answer to the secret of life is kept in a far off land. After exploration of this land you find that the way back no longer exists. So not only do you need to find the secret of life, but also the secret of how to get home again. The graphics are very pleasant, and I found all the puzzles to be at least logical which always means a good vote from me. Unfortunately, my review copy had a bug in it, so I couldn't finish it, but this I am told by Ian Andrew has been rectified in the finished version.
Personal Rating 7

MANIAC MANSION
Lucas Films/Activision — £9.99
From the makers of the wonderful Labyrinth comes Maniac Mansion, a very witty madcap adventure set in an old house and featuring all the ingredients of a spoof horror film; a mad professor, three schoolkid heroes, aliens,



Poor Sandy! What does Dr. Fred have in store for her?

How can Dave and Razor get inside to rescue Sandy?

Realizing the mansion's size, should Wendy and Syd split up?

mutants, purple slime and world domination. Lucas Films have taken the Labyrinth idea of colourful large sprite characters moving around a background which hides a clue or two, invoking a text input system where the words are just highlighted and then chosen, and dreamed up a great adventure in the true graphical sense. This is not an arcade adventure at all, it is a pure graphic/text adventure but set in real time with moving characters. The puzzles are mean, (try working out how to get in the house without looking at the manual) and you control not one but three different characters, each with their own skills. To add to the excitement, little cameo "cut scenes" appear in movie fashion to tell you what is going on in other parts of the house. Can you rescue Sandy from the clutches of Dr Fred and Nurse Edna? Betcha can't.
Personal Rating 8

CRIME DOES NOT PAY
Malcolm Gallon — Quill
Crime Does Not Pay, is a Quilled and Illustratored adventure using 94 locations with a few sound effects to boot. Written by CCI reader Malcolm Gallon, the story is about robbing a bank and getting away with the money without setting off any alarms or getting caught by your know who! The graphics Malcolm, are really quite well done and like the way the old boys in blue kept nosing around, it got quite exciting in places. The first part is really collecting objects to use later on, and there is a slight problem in the shop. When you enter and see a box of hands, you cannot take it, you can only buy it. Most adventurers are used to things just lying around, if that is different to the norm you should drop a little hint to that effect. Nice puzzle at the end and well done for creating an entertaining game. Anyone who would like to find out more can write to Malcolm at 3 Farburn Drive, Stonehaven AB3 2B2.
Personal Rating 6

THAT'S ALL FOR THIS MONTH, NEXT ISSUE TWO INFOCOM REVIEWS AND SOME NEW SSI ROLE PLAYERS. SEE YOU THEN.

HAPPY HOLIDAYS FROM MICROILLUSIONS

THIS SEASON MICROILLUSIONS' OFFERS:

For Amiga, C64/128 and MS DOS:
FAERY TALE ADVENTURE Today's hottest game! / BLACK JACK ACADEMY / ROMANTIC ENCOUNTERS AT THE DOME.
For Amiga and soon for C64/128 and MS DOS:
LAND OF LEGENDS / PLANETARIUM / EBONSTAR / FIREPOWER / GALACTIC INVASION / TURBO.
For Amiga:
DISCOVERY and DISCOVERY EXPANSION DISKS / PHOTON VIDEO / DYNAMIC CAD / MUSIC X / DYNAMIC WORD.

microillusions™

17408 Chatsworth St., Granada Hills, CA 91344 • Inside CA 818/360-3715 • Outside CA 800/522-2041 • FAX 818/360-1464

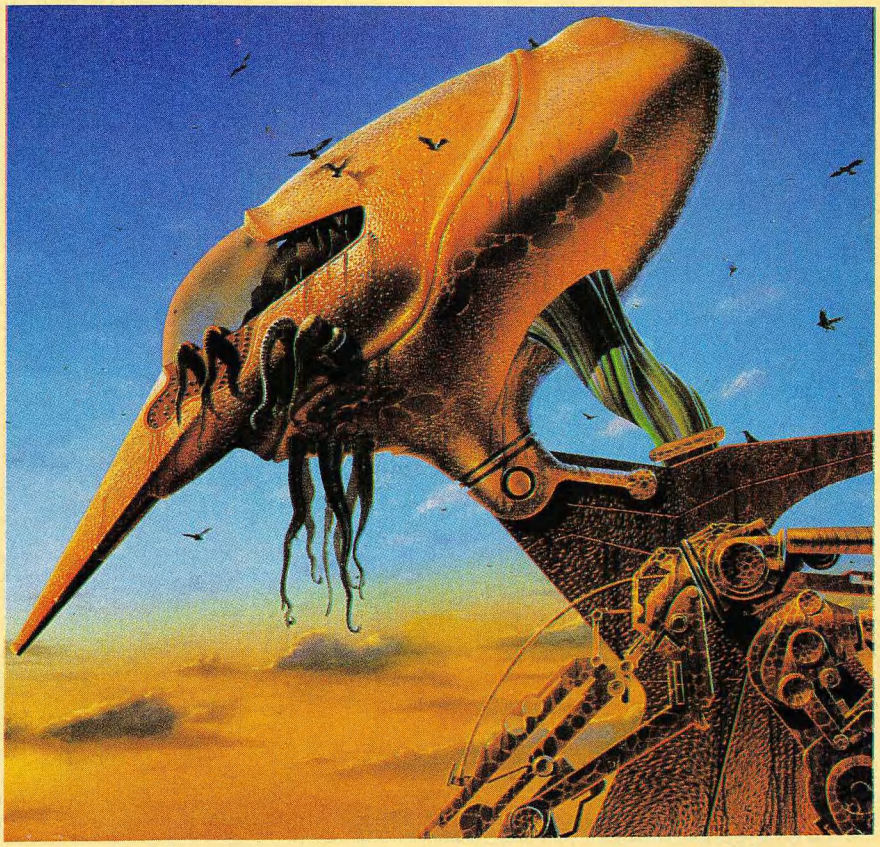
FOREIGN DISTRIBUTORS

Haba Systems, Pier Road, North Feltham Trading Estates, Feltham, Middlesex TW14 0TT 011-44-1-751-6451
Nano-Data, Ulefossveien 40, P.O. Box 830 Hjellen N-3701, Skein, Norway (035) 27-632/23-170
Commodore of Australia, 67 Mars Road, Lane Cove, N.S.W. Australia 011-61-2-427-4888
Beam Scope Canada, Inc., 110 Commander Blvd., Scarborough, Ontario M1S 3H7, Canada 416/291-0000

TERRORPODS

Psygnosis

Psygnosis, one of the best reasons to buy an Amiga, have let their talents run riot once more in their latest game Terrorpods. With some deviation from their style of late, they have produced a sci-fi game with strategic overtones.



The Story

Colain, an asteroid out on the edge of System 7 is not the sort of place you'd go for your summer hols. The only thing it's got going for it is its rich mineral deposits. So valuable are these minerals, opposing forces are prepared to kill for them. Detonite, Quaza, Zenite and Aluma are the names of these minerals, valuable for their explosive, energy giving, magnetic and strength qualities.

Ten mining colonies have grown up on Colian. Each colony has its own mines, stores and resource centre essential to the mining operation, with shuttles to transport the minerals throughout the network.

The whole think was going just too smoothly to last. Like a huge dark cloud, an Empire Mother Ship came into stationary orbit around Colain, bringing fear and panic to every soul on the asteroid.

The ship first took out the defence systems. There was nothing to do but wait for the final destruction. Surprisingly it never came. The Empire had planned a more advantageous strategy.

There was no more destruction. Colain was the perfect location for the construction of terrorpods, the essential ingredient in the Empire's planetary conquest.

In an attempt to discover the secret of the terrorpod's construction, I was selected for an undercover mission, in which I would pose as a simple trader in a Defence Strategy Vehicle.

The Empire soon learned of my presence and motive and sent down terrorpods and spoilers to destroy the installations, leaving me with a fast decreasing amount of resources which I needed to operate. I had to defend these installations for my own survival. Using my phasers I could fend off the spoilers and terrorpods, but they'd be back, unless I could put an end to them with a well aimed missile.

You might think that was more than enough to contend with, but strategic trading had to take place between myself and the remaining installations for both our sakes...

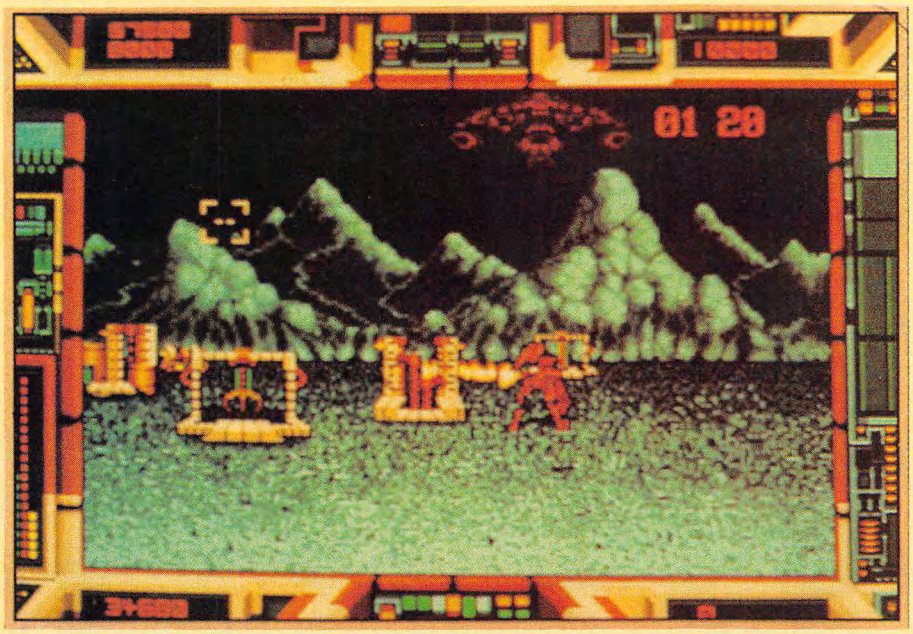
That's where the story ends and reality begins.

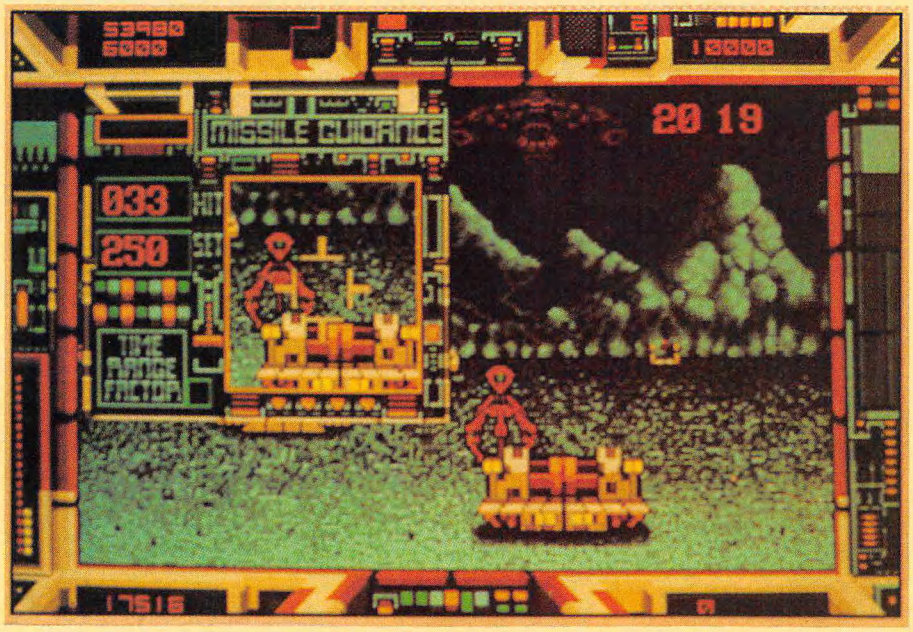
The Game

Another excellent Psygnosis introduction sets the scene. A static title screen makes way for a superb animated sequence of a terrorpod pilot boarding his towering mechanical beast. This is more than a pretty picture as it adds a lot to the game's atmosphere. Those Amiga users who don't understand English well will welcome the option to have all in-game messages in one of six languages.

Formalities over, it's on to the game. The view is from the seat of your D.S.V., looking out onto the rugged landscape of Colain. The mining takes place in a huge crater, the wall of which can be seen on the horizon.

Your vehicle is controlled by the joystick, with a sight controlled by the mouse. This sight has two modes





of operation, with two functions in each mode. To start with, positioning it over an installation and pressing the left button will give information on the installation. The right button will allow radio messages to be sent out if emergency supplies are needed. The return key toggles the modes. The second mode is for destruction and construction.

As soon as I discovered the second mode, my instinct told me to blow up everything in sight. Well, wouldn't you? A big explosion and meaty sound effects make it irresistable just to keep blasting. Unfortunately, phaser power is limited and will run out after a certain amount of use.

The Empire Mother Ship is ever-present wherever you are on the asteroid. This shoots missiles at your vehicle whic can be dodged or destroyed with your phaser, and it also sends down terrorpods and spoilers to blow up the mines and stores. A good shot will send them packing, but a missile is needed to finish them off for good, but as with the phasers, missiles are limited in number.

Terrorpods is played in 3D. The mines and other structures grow and shrink well, but you can't help noticing the effect is somewhat spoilt by the progressive colour shading. When moving sideways, the shading scrolls, but when moving forwards or backwards, the ground looks stationary, with the structures seeming to slide about.

Whilst protecting the installations, you must trade with them using your remote controlled drover to keep both you and them stocked with what you need, and collecting components of the terrorpods when available.

Unlike Psygnosis' last game Barbarian, Terrorpods is not an easy game to get into. Although I must admit to being one of the 'If all else fails read the instructions' school, it took me a fair while to understand the game, even after reading the instructions a few times. Once into the game it can prove a highly enjoyable mix of arcade action and strategy.

Terrorpods is a very professional looking game which will appeal to strategists with an inclination towards sci-fi action.

T.H.

LONDON'S LARGEST DISPLAY OF PRINTERS MONITORS COMPUTERS AND PERIPHERALS

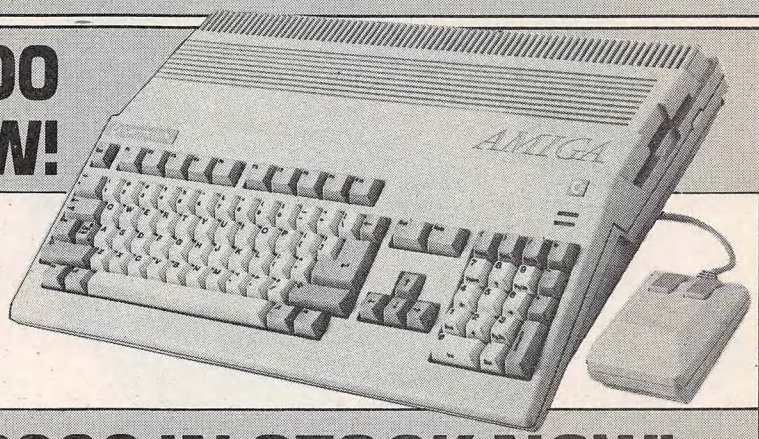
HI VOLTAGE

The London AMIGA Centre

OPEN MONDAY-SATURDAY 9 AM-6 PM

OPEN MONDAY-SATURDAY 9 AM-6 PM

NEW AMIGA A500 IN STOCK NOW!



SPECIAL OFFER
A500 £399 + VAT

NEW AMIGA A2000 IN STOCK NOW!

'The Only Desktop Computer You Will Ever Need'
capable of running 2 x 3½" disc drives, 1 x 5¼" drive and a hardcard with IBM Emulation simultaneously.

PRICES FROM £1095 + VAT
INCLUDING FREE SOFTWARE + ON SITE MAINTENANCE

ALEGRA ½ MEG
A1000 RAM PACK CAN BE UPGRADED TO 2 MEGS
PHONE FOR NEW LOW PRICE

AMIGA SOFTWARE — LOWEST PRICES

Aegis Animator	£99.95	Prowrite	£119.95
Aegis Draw	£99.95	Bards Tale	£44.95
Aegis Draw Plus	£209.95	Aztec C Developer	POA
Aegis Images	£29.95	Grabbit	£24.95
Aegis Impact	£119.95	Zing	£59.95
CLI mate	£29.95	Earl Weaver Baseball	£24.95
Deluxe Music	£69.95	Scribble V2	£69.95
Deluxe Paint II	£69.95	Analyse V1	£59.95
Digi Paint	£59.95	Analyse V2	£124.95
Digi View V2	£179.95	Organize	£74.95
Logistix	£139.95	Official Amiga Dos Manual	£19.95
Modula 2	£77.95	Fairy Tale Adventure	£44.95
Pagesetter	£109.95	Zuma Fonts	£29.95
Aegis Sonix	£64.95	Aegis Arazok's Tomb	£39.95
Superbase Personal	£89.95	Karate Kid II	£24.95
True Basic	£119.95	Eidersoft Karate	£19.95
Flight Sim II	£39.95	DBMAN (Dbase III clone)	£134.95
FS2 Scenery Disc 7	£22.95	Test Drive	£44.95

WE WILL MATCH ANY U.K. DEALERS PRICE FOR AMIGA SOFTWARE THAT IS IN STOCK.
We also accept Access and Visa Cards.
All prices include VAT and U.K. P&P

PHONE FOR NEW CATALOGUE
On Amiga Hardware and Software

PUBLISHER "Move over Mac"
Desk top publishing for the Amiga integrates with deluxe paint, scribble wordprocessor etc. Can produce copy in both colour and black and white

IN STOCK NOW Desktop Publishing Software **£149.95** inc VAT **inc. FREE Postscript Driver**

Mail Order + Export Hot Line Phone 01-686 6362

Delivery by Securicor (4 day) please add £5.75 per item.
Delivery by Securicor 24 hour please add £9.95 per item.
(software postage free)

Send off or order by 'phone quoting your Access, Visa No.
'Phone 01-686 6362. Immediate despatch on receipt of order or cheque clearance. Or Telex your order on: 946240 Attn 19001335.

EXPORT
Contact our specialist export department on 01-686 6362

EXPORT CUSTOMERS SUPPLIED TAX FREE.

ALSO A VAST RANGE OF DISK DRIVES, JOYSTICKS, DISK BOXES, INTERFACES, SHEETFEEDERS, ETC.

HI VOLTAGE **Dept. CBAU, 53-59 High Street, Croydon, Surrey CR0 1QD. Fax: 01-681 8939. Tel: 01-681 3022**

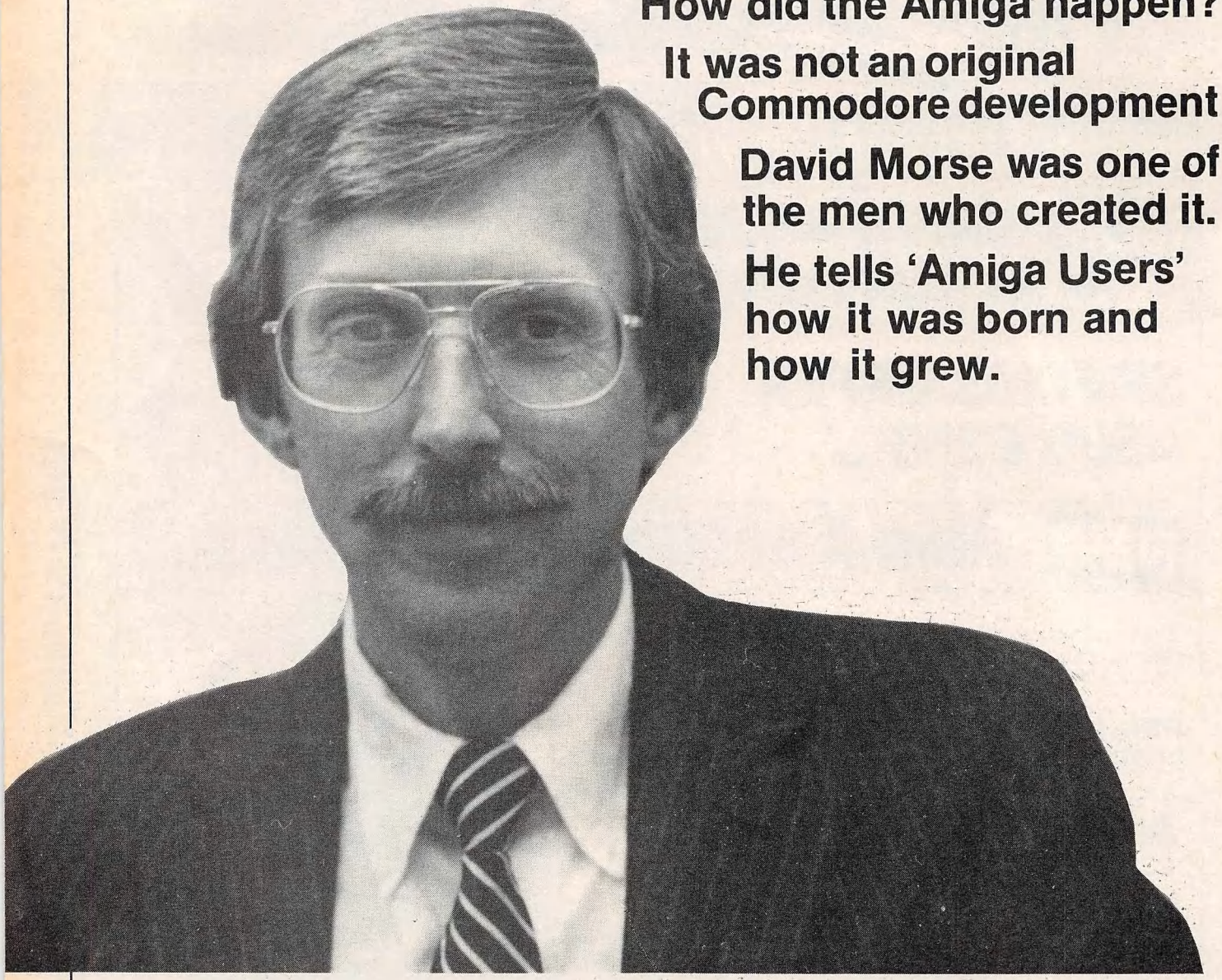
Prices correct at copy date. Subject to change without notice due to currency fluctuations etc. E. & O.E.

How did the Amiga happen?

It was not an original Commodore development

David Morse was one of the men who created it.

He tells 'Amiga Users' how it was born and how it grew.



"The spec we set is basically what it is..."

David Morse today heads up Epyx, one of the most successful and influential games software companies in the world. Its games are played by hundreds of thousands of home computer players in many different countries. But maybe one day his biggest claim to fame might have little to do with his Epyx activities. For David Morse was one of the two men who, in early 1983, set about creating a video games system that ended up as the Amiga computer.

At that time, six companies announced that they were getting into games video cartridges. So David Morse who had just been introduced to one of the United States outstanding computer engineers, Jay Miner, sat down with him and they decided to produce a machine that "... was way out ahead... Pushing the technology way out..."

For the first three months they didn't design anything. "Jay explored custom chips... what RAM chips were going."

They did some market research. At that time the big names were Radio Shack and Texas Instruments. "People were buying them for balancing their cheque books... for Word Processing... But they wanted them for entertainment... for graphics... to be easy to use... This was before the MAC or LISA... There was the Xerox Star... Nintendo..." He shakes his head as if wondering where most of those big names are today... "So we get a spec. Screen resolution... speed... colours. The spec we set is basically what it is... 4096 colours... Till March of '83, there were only three or four people in the company... We got together with a black board..."

David Morse has himself an engineering degree but had never been an engineer, he says.

By March 1983, the Amiga was designed. The rest of 1983 was devoted to creating and testing the custom chips. But by mid-November it looked like there was no way it could be done — at least in time for the Consumer Electronics Show in Chicago in January 1984.

"So the guys moved into the office and worked around the clock... 'We've just gotta get this thing done'... On January 1st 1984 for the first time the Amiga came to life... They spent the next few days fitting a tube... 18 boards... 3000 off the shelf pieces to emulate it... I saw it work and took it to CES... We laid it out on a table for software developers and investors to see..."

Although David Morse does not say so, it is common knowledge that the development of the Amiga was an extremely dubious financial proposition. It might not have worked and the whole thing could have been a financial disaster. Investors had been unwilling to sink their money into Morse's company. So the urgency of getting the computer to run and to show it at the Consumer Electronic Show was not just a question of pride or beating the opposition but a matter of survival.

In spite of that desperation, they did not pretend that the Amiga was in anything but a highly preliminary state. They could have covered it up or shown a video. Instead they put all the temporarily fitted together bits out in the open on the table and let the world see.

"Until we showed it, I wasn't confident we had a great product... It just blew people away... Dick Shaffer" Perhaps the most respected writer on computer technology of the time," told us 'You have the most exciting thing in the Show!'... We spent the next six months finishing up the custom chips... We planned to have the product in the market at the end of 84..." As a result of the attention of people like Shaffer, they got a call from Commodore. 'We're very interested in licensing your technology.' They were told.

Commodore wanted an option to use the Amiga hardware technology in its products. "Don't forget," says Morse, "We were two years and $6 million down the road... They wanted a 30 day option... At the end they said 'We want the software too."... I told them 'I'm not going to sell the company for the cost of one license!'... We were trying to raise 15 million to get the product into the market... and the state of the market was very shaky then..."

He falls silent remembering the knife ege on which the existence of the Amiga then rested. So you sold out for $25 million?

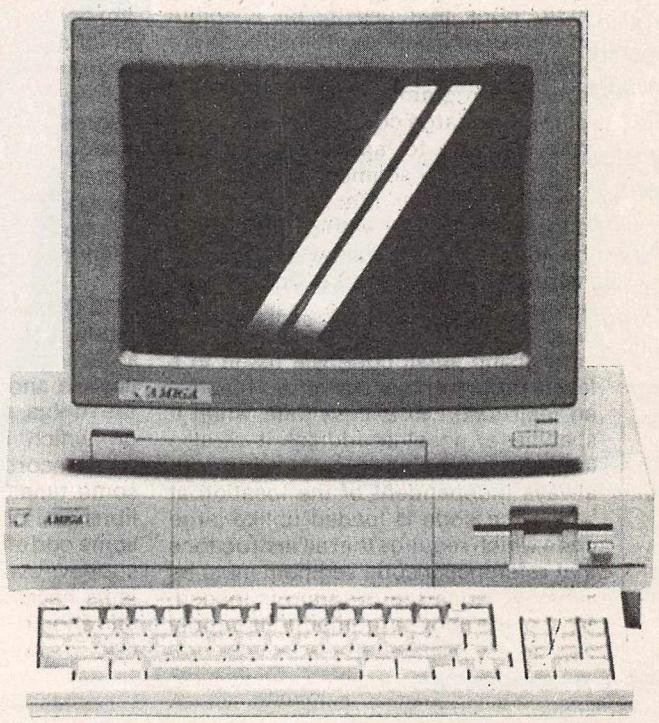
"No. $27.1 million... They didn't want to bring the product out in 1984. They wanted to upgrade the hi-res chip. I told them that they shouldn't plan on me being a part of the new company... But I stayed on till April 85... with an agreement for consultancy for 2 years..."

There are clearly some regrets about the way that he would have marketed the Amiga. "We wanted to finance a lot of software. Commodore didn't want to..." Many people would say that Commodore was wrong and Morse was right. The Amiga might have taken off much more quickly had there been enough software to convince buyers that the machine was a good investment. Had Commodore backed the software...

But for David Morse the memories are by no means all regretful. "It was a great experience... We had a wonderful group of people... A lot of mutual respect... Some really special things... you don't have that many special things happen to you in your life..." The people who worked so hard also shared in the rewards "Every Amiga employee had sock in Amiga..."

But the Amiga story isn't entirely finished for David Morse. Of course Epyx is developing 16 bit products for the machine but there is a closer link than the multiple zeros in his bank account that enabled David Morse to take some time off before he joined Epyx to recover from the stress of the "Amiga experience... it proved how difficult it is to get something into the marketplace..." For he has brought into Epyx two of the team that worked on the Amiga, Jay Michel — one of the most expert and prolific software creators for the machine and Dave Needler a top Amiga design manager. They are working on some special projects, maybe what David Morse calls something "Off the wall."

Whatever they do, it will be difficult for them, or David Morse, to repeat that excitement of developing what is now recognised as a masterpiece of the computer age and yet to see it slip out of your control. Perhaps they would not want to try to equal that. After all, it is pretty unlikely that more than once in anyone's lifetime the experience will come along of creating an Amiga.



Reasons to add Alegra are stacking up.

■ **Bill Volk, Aegis Corporation, Vice President Software Development:**
"The Alegra is an excellent value and speeds up operations of Aegis Draw substantially. It works well with 1.2 operating systems and brings the cost of memory expansion for the Amiga in line with the cost of memory for other computers."

Alegra is the Amiga™ Memory Expansion Unit from Access Associates available in 512k (upgradeable to 2MB) and 2MB versions. With a ¾" foot-print, Alegra is *the smallest expansion package available anywhere!*

■ **Greg Riker, Electronic Arts, Manager of Technology:**
"We use Alegra and have put units in the hands of all our developers so they can develop programs using external memory. We picked Alegra because it was problem-free, and will be using it for all future development on the Amiga."

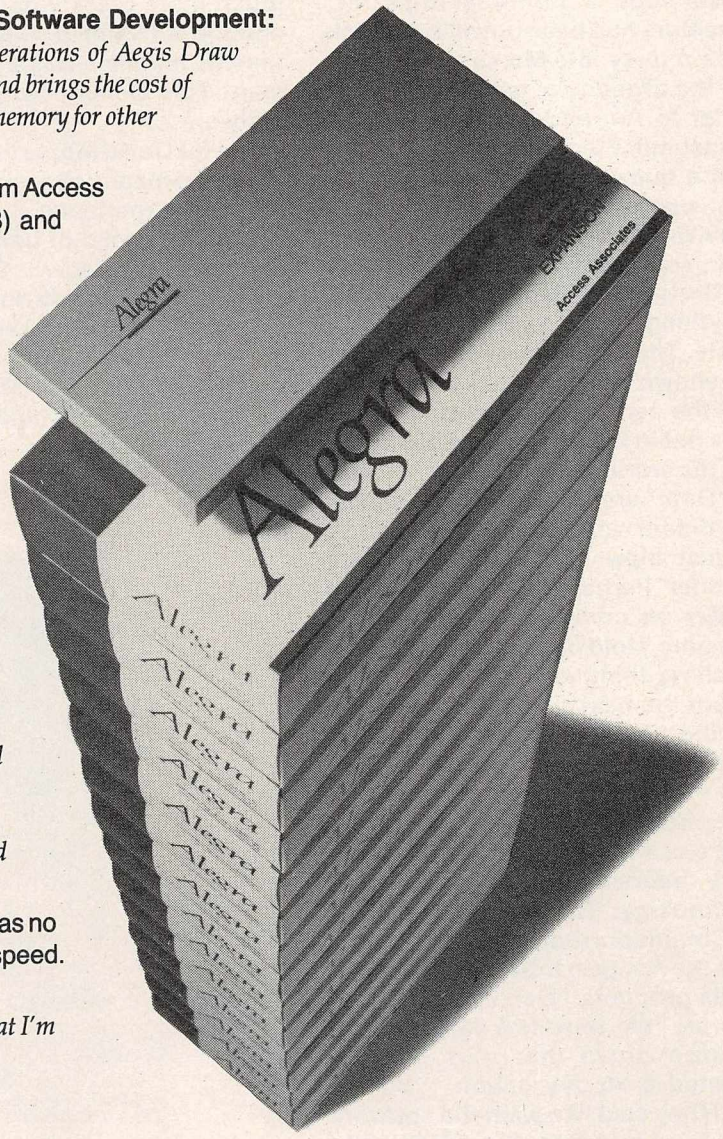
Approved by the F.C.C. for Class B operation, Alegra conforms to the Commodore/Amiga Expansion Specification and works with all popular software.

■ **Larry Studdard, Micro-Systems Software, President:**
"You can quote me all over the place. They're good cards. Alegra makes and allows OnLine, Analyze, Organize, and BBS PC to be more effective. We beat our Alegras to death. One of them is in use 24 hours a day and not even a glitch."

Economically priced and highly reliable, Alegra has no wait-states, so your Amiga operates at its intended speed.

■ **Bruce Webster, Byte, Consulting Editor:**
"...it's worth the price for the added power. I know that I'm hooked."

Available at your quality Amiga dealer.



ACCESS ASSOCIATES

491 Aldo Avenue, Santa Clara, CA 95054-2303 (408) 727-8520 FAX 408-727-0792

™Amiga is a trademark of Commodore-Amiga, Inc.
Alegra is a trademark of Access Associates.

FIREPOWER

Microillusions

Faery Tale Adventure, possibly the greatest Amiga game ever, put Microillusions right up with the leading Amiga game producers. Big things are bound to be expected of their next game Firepower, but are these expectations to be justified?

Firepower is the first in the 'One to One' range of games, all to feature one player, two players or two players through a modem options. The object of the game is for you to recover the enemy's flag without being destroyed, and before your opponent (if played with two players) recovers yours.

Before playing, a number of selections must be made, the first being whether to play alone, or against another player who can be at the other end of a modem. That done, each player's tank must be chosen from a choice of three. These tanks have varying speeds, carrying space, fuel and armour strengths. Selections made, it's on to the game.

When played in one player mode, the action window fills most of the screen, with the status area to the right. Two player mode has a split screen, half for each player resulting in a smaller area for both players, with the status areas below. Both players have an independent view (from above) which scrolls, sometimes jerkily, in all directions.

Whichever mode in which you play, the object is to capture the enemy's flag. Your tank starts in a shelter in your fortress. Moving out, you begin to explore the fortress and discover it to be enclosed by a destructable wall with gun turrets at regular intervals. Paths lead around the fortress but need not be followed as your tank can drive just as well on the rougher ground. On sighting a building, any normal gamer starts blasting. It so happens that blowing up your own buildings is a good idea. Destroying a building sends your panic-stricken comrades legging it to your tank. Drop them off at the hospital to earn points per man.

Getting down to the real mission, you must leave the comparative safety of your fortress and penetrate the enemy fortress. Mines are laid at points around the land and can be very difficult to avoid running into. When you make it to the enemy fortress, taking out gun turrets helps keep the pressure down while you blow a hole in the wall. Once inside, you must dodge and fight off constant enemy fire as you try to locate the flag.

The tank is controlled by the joystick, it moves in the direction of the stick, but can be tricky to manoeuvre as it goes in reverse unless faced in the right direction, and can easily get stuck in the right direction, and can easily get stuck in the remains of a derelict building.

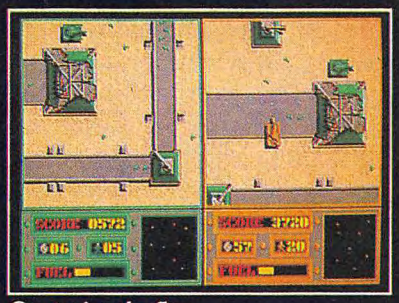
As far as graphics go, Firepower has some well drawn sprites, and suitably rugged backgrounds, which are let down a little by the uncomfortable scrolling.

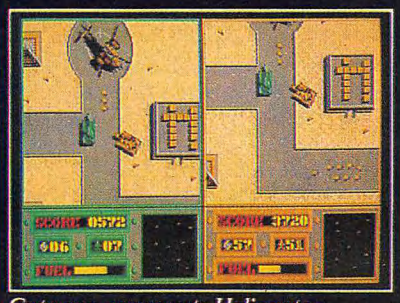
There's a lot of noise in the game, but few different sound effects. The overall sound is one of big explosions everywhere.

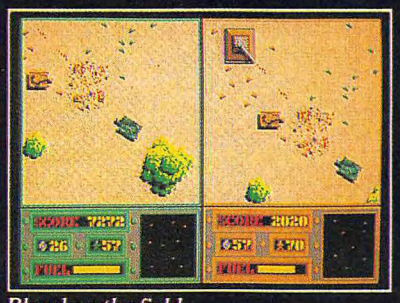
The option of a two player and modem game is a great addition to what is a very different game from Faery Tale (although it does have a similar style). Even though the game is played over a large area, I found it to be somewhat lacking in depth, but then as I said, it isn't Faery Tale. War gamers and shoot 'em up fans alike will go crazy for this all action, total destruction tank battle.

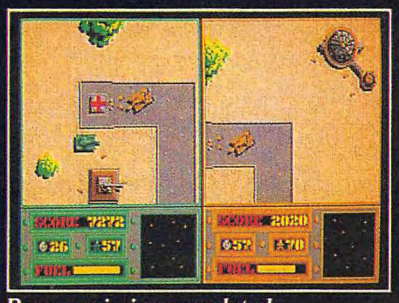
Multiple Tank Selections.

Modem play.


Capturing the flag.


Get your opponents Helicopter before it gets you.


Blood on the field.


Rescue mission completed.

ROAD WARS

Mastertronic

Possibly Mastertronic's biggest venture yet is their one into the world of arcade machines. Their range of arcade machines, known as Arcadia, are really Amigas in an arcade cabinet. Road Wars, their first game is now available for the Amiga 500. As the original for the arcade was written for the Amiga, you can imagine what a close version it is. In fact, it is almost identical, just a few features of the original are missing.

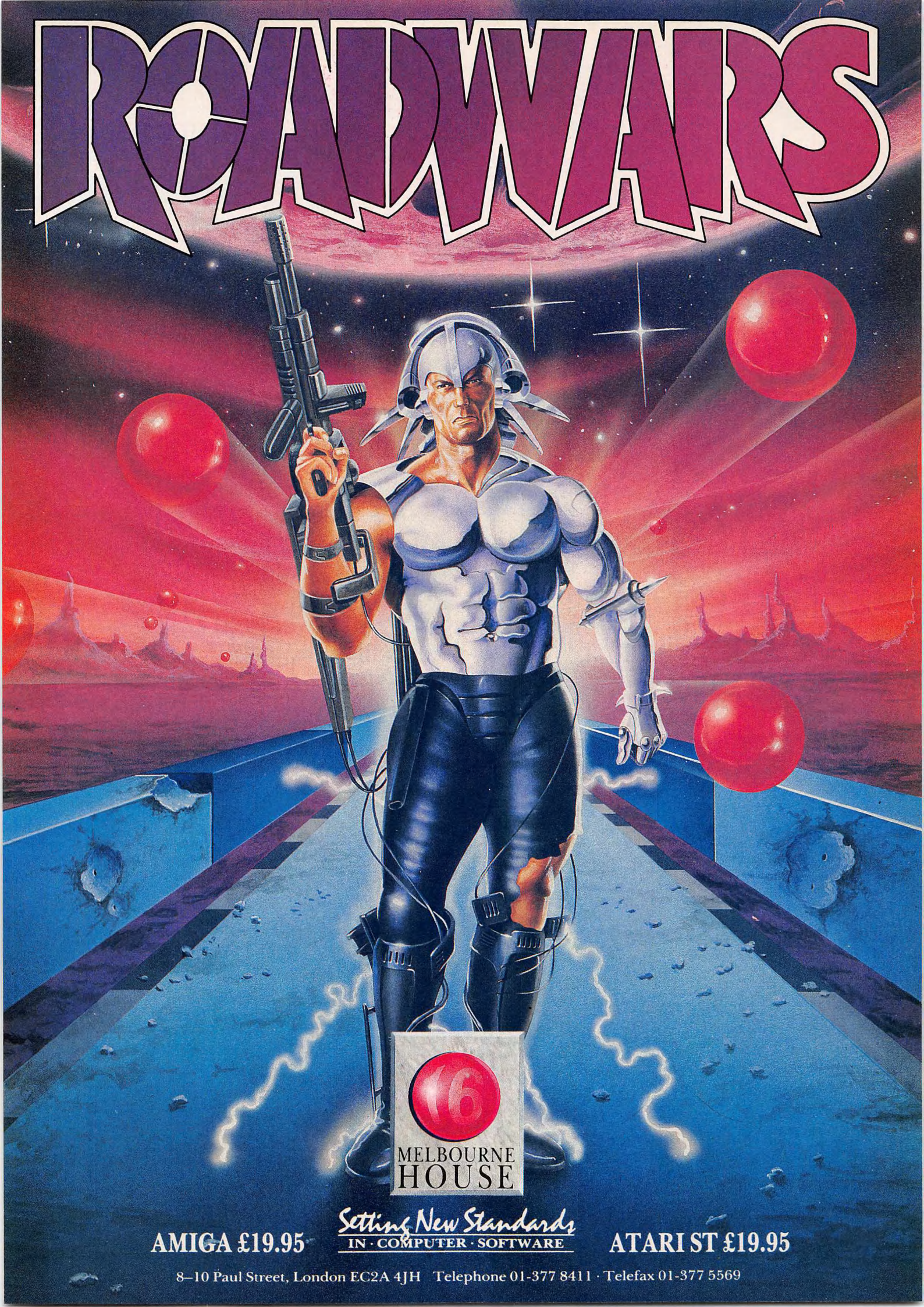
The game is for one or two players, both of whom are on the screen simultaneously side by side. The simple aim of the game is to battle on along the seemingly never-ending highway encircling the Moon of Armageddon.

Each player controls a battlesphere which has an enclosed gun turret. The battlespheres have two modes of operation. Starting as a ball, they roll down the highway, protected from enemy fire and road obstacles. At the press of a button, the top flips open to reveal the gun. This is needed to knock out nasties on the road, satellites and roadblocks.

The game is depicted in 3D from behind the players with the moon flashing past at the top of the screen. The 3D effect is very convincing as everything moves very smmothly and speedily.

I think that as an arcade game, Road Wars may not be particularly amazing when compared to the likes of Out Run or Rastan Saga, but as a home Amiga game, it is excellent. It is a leap forward into a whole new dimension of home entertainment software. At its launch at the PCW Show it had crowds absolutely stunned by its genuine arcade level graphics and action. There is still a distinct lack of arcade style Amiga games, and Road Wars will give the chance for Amiga owners to delight in some true arcade action.

T.H.


ROADWARS
16
MELBOURNE
HOUSE
Setting New Standards
IN · COMPUTER · SOFTWARE
AMIGA £19.95
ATARI ST £19.95
8–10 Paul Street, London EC2A 4JH Telephone 01-377 8411 · Telefax 01-377 5569

The database that's as easy to use as a VCR!

Superbase™
PERSONAL
RELATIONAL DATABASE SYSTEM

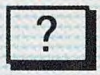
Superbase is easy to use

If you're new to databases, or find them difficult to use, Superbase is your perfect choice. Unrivalled ease of use, unsurpassed power – a combination that's never been achieved before! Click your mouse on the VCR style symbols to speed through your data. Pick out a single record in the blink of an eye. Complete complicated searches in an instant. Display your text and graphic files.

VCR style symbols

Review records with CURRENT, FIRST, LAST, PREVIOUS, and NEXT. Scan automatically with FAST FORWARD and REWIND. Interrupt or terminate scanning with PAUSE or STOP.

Key Look-up



Call up a single record from a file instantly by clicking on this button.

Filter

Select and work with any category of records from your file. The Superbase Filter can be applied to several applications in turn – say from updating a set of address records to printing labels for the next mailing to that group.

Superbase is relational

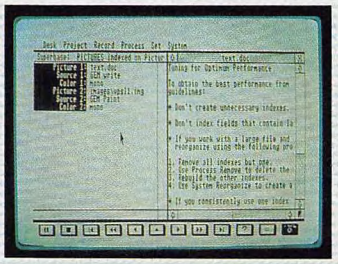
Link files together in a free and flexible way. Form new links between files whenever you choose. Split one database into several or create a new database from information in several files. Save your Queries to use again.

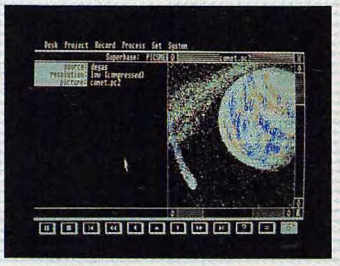
Superbase is flexible

Change file definitions at any time – add or delete fields, change their names or types, with no need to re-enter data.

Unique visual database

Click the camera gadget and view text or picture files alongside their database records. Spectacular slide show option!





Specifications

Fields per record	No limit
Record length	No limit
Records per file	16 million
Files per database	No limit
Key fields per file	999
Files joined	84
Sort levels	170
Report break levels	34

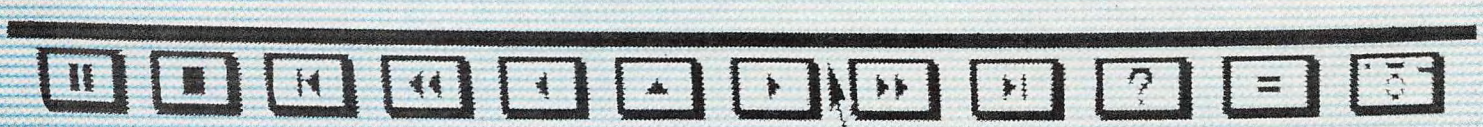
"No limit" implies memory or system dependent.

For 100% IBM PC™ Compatibles (including Amstrad PC1512™), Atari ST™ and Commodore Amiga™ **£99.95**

PC version also available with GEM Desktop™ **£149.95**

PC version with GEM Desktop™ and mouse **£230.00**
(all prices include VAT)

PC versions require
- 512K RAM
- Graphics Card (CGA, EGA or Hercules™)
- Mouse (Microsoft® Bus or Serial, Summa Mouse,™ Summa Sketch™)



For your nearest dealer call:

Xitan Limited	(0703) 871211
Lightning Distribution	01-965 5555
SDL (UK) Ltd	01-309 0300
Eltec Services Ltd	(0274) 722 512
GEM Distribution	(0279) 412 441
Precision Distribution	01-330 7166
Software Express	021-328 3585
Hugh Symons	(0202) 745 744
CentreSoft	021-356 3388
Software Limited	01-278 2377

Demonstration disks are available for £4.00 from Precision Software. Send your cheque to:
Precision Software Ltd, 6 Park Terrace
Worcester Park, Surrey KT4 7JZ

Precision Software has a track record of outstanding success in productivity software: with over 450,000 users of its productivity software packages worldwide, Precision promises and delivers the best in reliability, performance and support. Precision Software acknowledges all trademarks referred to.

Precision Software Ltd, 6 Park Terrace
Worcester Park, Surrey
KT4 7JZ
Tel: 01-330 7166
Fax: 01-330 2089
Telex: 8955021 PRECIS G

Precision Software

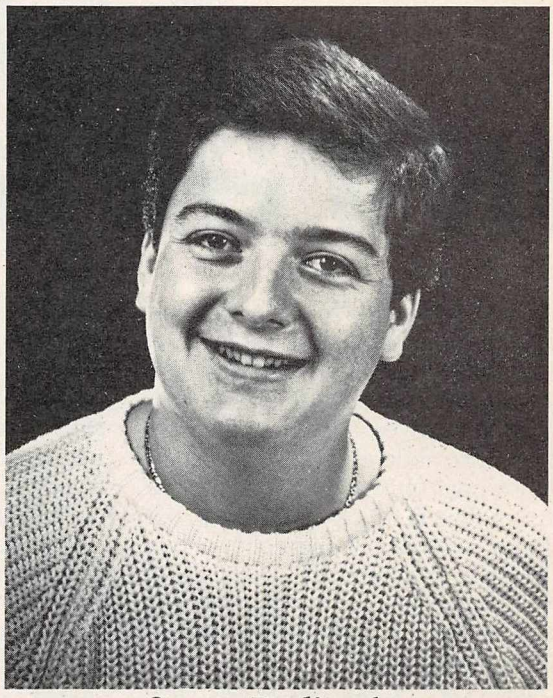
Hello Neighbors!

Thank you for your support and concern for our software products.

I have gained much experience with microcomputer software design by acting as a consultant and custom programmer for several companies, including Tandy Corporation, Timex Computer Corporation, I.B.M., Epson American, Inc., and Panasonic Computers.

As founder of Micro-Systems Software, Inc., and the primary author of all our programs, it is now my intent to create practical and quality software for you, by devoting my full efforts to the MSS Research and Development Division.

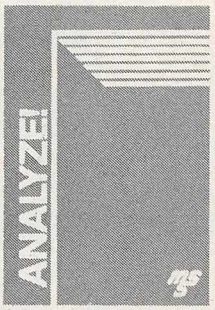
Enjoy your Amiga!



Steven Pagliarulo
Vice President

Micro-Systems Software

7 Years of Quality Software and Still Growing Strong!

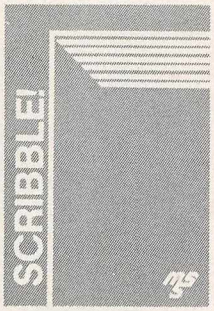


ANALYZE!

• Powerful Electronic Spreadsheet • Full Featured Macro Language • Graphs and Sort •

ORGANIZE!

• Professional Data Information Manager • Powerful Mathematical Functions • Reports, Files, Sorts •



SCRIBBLE!

• Full Featured Word Processor • Spelling Checker • Mail Merge •

BBS-PC!

• Electronic Bulletin Board System • File Transfer System • Custom Menu Creation •

MICRO-SYSTEMS SOFTWARE, INC.

12798 Forest Hill Boulevard,
West Palm Beach, Florida 33414 U.S.A.
Telephone: (0101) 305 790 0770

Ask for a dealer demonstration of these fine products.

For Dealer Information:
Vision Technologies Limited
Croydon, Surrey
Tel: 01-760-0013

ONLINE!

• Full Featured Terminal Program • Unattended Operation • File Transfers •

FLIPSIDE!

• Valuable Printing Tool • Perform Wide Side Print Magic • Print any Text or IFF File wide •

AMIGA IN THE BIG APPLE

The first Amiga Show . . . The Ami-Expo in New York. It is nearly five years since the Amiga was conceived by David Morse, Jay Miner and R.J. Mical. It is over almost two years since Commodore struggled to bring it to the paying customer. At last there was a Show at which the fledgling but already extensive Amiga community – users and suppliers – could meet and discover where the Amiga is and where it may be going tomorrow and the year after that.

New York is not, as some New Yorkers are supposed to believe, the centre of the universe. It merely serves the East Coast of the U.S. with a useful meeting point. So it was no use expecting a nationwide response on the part of the 100,000 plus Amiga owners in the U.S. As a measure of reference, the Sheraton Centre at which AmiExpo was held is about half the size of the Novotel where the U.K. Commodore Shows take place.

The hall was quiet and furnished not by the giant constructions that filled the Olympia for the PCW Show (see this CCI) but with modest and largely similar "booths" – around two and a half metres by three metres, curtained at the back in a uniform blue and white. It was all very serious and earnest unlike the noisy PCW and the brightly neon-lit Broadway just around the corner.

The atmosphere was appropriate. No-one was trying to impress with razzamatazz. Everyone who came was already in some way committed to the Amiga. They did not need show business. What they were interested in was colourfully appearing on the monitors' screens. And for the 8000 enquiring, seriously Amiga-involved visitors who came it certainly seemed thoroughly impressive.

JAY MINER READS THE AMIGA USER

CONTINUED ON PAGE 128

The fastest

Modula-2

software development system

for

the IBM PC range & compatibles £ 75

With M2SDS you develop your Modula-2 programs in a powerful window environment, where all the tools are integrated for speed and efficiency:
- syntax directed editor
- incremental compiler – much faster than a conventional compiler
- fast linker – produces stand-alone executable programs
- library manager – modules are compact and ergonomically managed
- clock, ASCII table, calculator
- all modules are provided in source form

M2SDS supports the 8087 maths co-processor, REAL arithmetic calculates to 15 digits accuracy and easy access to the MS-DOS/PC-DOS/Concurrent-DOS operating environment. Programs and data may use up to the full 640K DOS memory. No other software development system has as many tools and toolboxes as M2SDS.

SDS-XP	£ 185
Debugger	£ 70
M2SDS demonstration disks	£ 5
Turbo-Pascal to Modula-2 source code translator	£ 35

AMIGA £ 115

Extremely fast single-pass compiler, integrated into the Amiga Workbench, full support for documented functions (Intuition, Exec, Graphics, etc.), double-precision numeric types, including FFP, produces optimised machine code, links in just a few seconds! The comprehensive development system contains an editor, compiler, linker, library modules (Standard & Amiga libraries), manual and introductory Modula-2 book.
Minimum configuration: 512K, 1 drive.
Demonstration disk £ 5

IBM/370 Mainframes

£ 6500

One of the fastest compilers in the world (single-pass, 36000 lines/minute), full 32 bit arithmetic, separate compilation of modules with all the benefits of Modula-2 (version control, type checking between modules, etc.), interface to Assembler and Fortran, support of project libraries, produces high efficient native code (including arithmetic checks) for linker and loader.
Annual contract for support £ 1100

All these products with full support are available from

RTA real time associates LTD
Canning House, 59 Canning Road,
Croydon, Surrey, CR0 6QF
Telephone 01-656 7333/4/5

Dealer inquries welcome

A. + L. Meier-Vogt
Im Späten 23
CH-8906 Bonstetten/ZH
Tel. (41) (1) 700 30 37

E-Mail: APLUSL@komsys.ifi.ethz.ch (UUCP)

1E

JCL

BUSINESS SYSTEMS LIMITED

Your specialist computer business centre. We supply Commodore computers with software and peripherals, which meet your needs. Visit us and see **YOUR** equipment running **YOUR** software before shipping. We give a professional after sales service and we are just a phone call away!

We stock all Commodore professional hardware including AMIGA 2000, PC40/20 and 40/40 computers. Phone us for latest prices.

NEW . . .

JCL are launching their latest product —

DIGIPIC

An all British designed and manufactured TV field grabber. Transfers TV pictures from a camera or similar source to your AMIGA

Brief specification:

- ★ Fast, single field digitising
- ★ Menu driven software, very easy to use
- ★ High quality 64 level gray scale
- ★ Pictures saved for loading nto DeLuxe Paint or Graphicraft
- ★ Internal 64K picture store
- ★ Adjustable samples per line and lines per field

AVAILABLE NOW at special introductory price of £299.00 + VAT inclusive of shipping

JCL

BUSINESS SYSTEMS LIMITED

71 St. John's Road, Tunbridge Wells, Kent TN4 9TT.
Telephone: Tunbridge Wells (0892) 510845

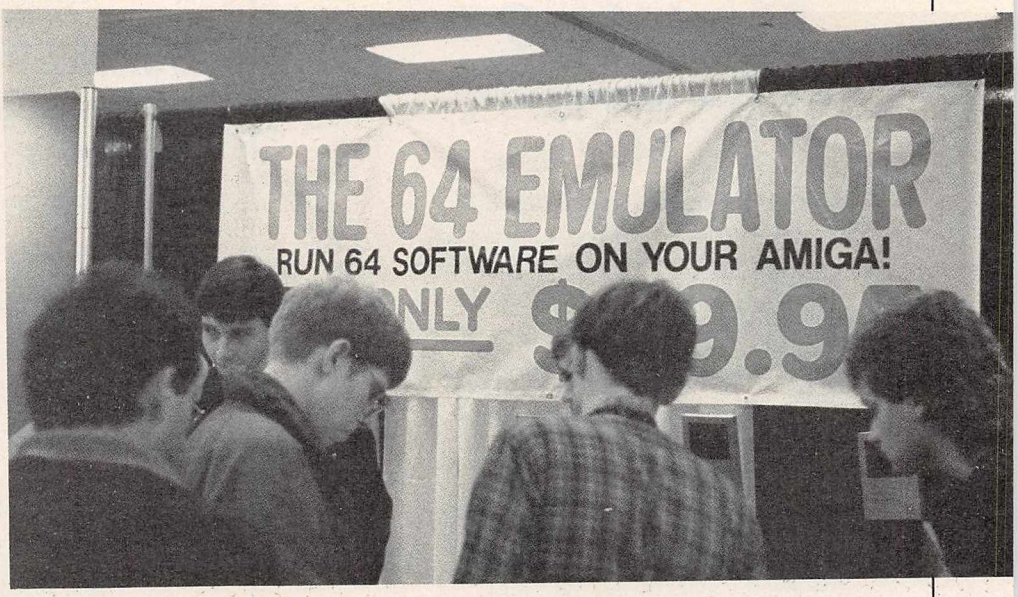
There were plenty of products, even 64 emulators, that showed the exciting dimensions that the Amiga is opening up. Graphics, music, DTP, productivity and expansion, there were in all of them developments that meant that the user is beginning to find in the Amiga not an oddball, odd-man-out computer for the freaky enthusiast but a machine that offers all round accessibility to the applications that everyone wants besides those that seem designed merely to show off the Amiga's remarkable technical skills.

Keynote

For the Show's 70 exhibiting companies and the visiting public Ami-Expo was an opportunity to be reassured that the Amiga dimension was not just an esoteric figment of their own and Commodore's somewhat fickle imagination but already an established and developing world. To buttress this reassurance, the Show's organisers, led by the baby-faced but formidably sharp and energetic Alexander Gros, had the bright idea of placing the Amiga within its historical context. They invited the people responsible for the computer's original technical creation, to give "Keynote" presentations, speeches and question and answer sessions that lasted for about an hour at the beginning of the first two mornings of the three day Show.

The two men most people regard as the geniuses behind the technical development of the Amiga – before even Commodore bought the company to get the machine – are Jay Miner, known as the Father of the Amiga, the leader of the whole team that created it and R.J. Mical who led the software side and developed the intuition interface, the heart of the Amiga. As neither works for Commodore any more, they did not need to take it easy on anyone including Commodore. The audiences much appreciated their frankness in describing the problems they faced not just from the technical difficulties but also from the terrible financial plight that the Amiga company was in before CBM rescued it.

They did not stop there though. They both described in considerable detail and with a great deal of relish their opinion of Atari, who had tried to buy Amiga before Commodore and the way that CBM had not altogether carried out their original vision of the Amiga.



We found out a number of very interesting things including something that you will not receive an instruction for when you buy your Amiga. It seems that within the operating system there is embedded a series of codes that if you press the right keys will deliver a number of interesting messages among which there is one that informs you that the Amiga team created the machine but that Commodore messed it up, only the word messed is used in a rather stronger form. (Those interested in the messages are invited to apply to the Technical Editor of Amiga User with a S.A.E. and a cheque for £5.00 made out to Amnesty International. You will be told all we know!) The last day's speaker was Richard McIntyre, a present Vice President of Commodore, who not surprisingly was less entertaining but very informative of CMB's presently healthier condition and future plans.

In addition to the Keynote speakers, there was a programme of seminars that ran throughout the three days. The Amiga 500 and 2000 were introduced in detail. There were seminars on DTP, Desktop Video, Graphics including Laser Art and Design and Image Processing and 3D animation. Music was covered thoroughly, especially in one session called, very correctly in view of the Amiga's versatility, '20th Century One Man Band'.

There were a number of presentations and "Any Questions" style panels on serious applications such as programming and memory expansions and the use of the Amiga as a Desktop Workstation. There was also a session on Entertainment mostly about games. Jonathan Ellis from the U.K.'s Psygnosis was on the panel for this one which was not surprising as the Psygnosis Amiga hits Barbarian and Terrorpods are topping the 16 bit charts on both sides of the Atlantic.

If you wanted a picture of how the Amiga came about, where it is today and likely to be tomorrow, the programme of speakers and seminars gave it to you excellently for twenty dollars for the whole course. And, in addition, there was the Show itself.

Dazzling Effects

The first day the Show was so crowded that it was almost impossible to move around the single exhibition floor. This degree of public interest clear-took the companies showing by surprise. If products were available to buy on the booths, then they were sold. The public was obviously delighted to be able to see and to buy such a wide variety of recent or totally new Amiga products.

We asked one pleased looking visitor what he liked most and he pointed to the stunning Bernadette from Texas on the Byte by Byte stand and said "Her!". But he did admit that he had also bought the Sculpt 3D package that Byte by Byte was selling too. So big was the crowd at that stand, with a terrific Newton's Cradle demonstration created on Sculpt 3D (written by Eric 'Juggler' Graham) as big an attraction as Bernadette, that Jay Miner, Father of the Amiga, was unable to get to the stand and speak to Byte by Byte MD Scott Petersen and found himself actually paying for Sculpt 3D.

CONTINUED ON PAGE 129

AMIGA
IN THE BIG APPLE

CONTINUED

There were a number of graphics packages including Videoscape 3D – featured in Amiga User September – which showed that the whole graphics and video area is beginning really to take off for the Amiga. This is both for home entertainment and also professional uses. With frame grabbers like A LIVE, which captures, plays back and displays moving video images, genlocks at around only $180 (£120.00) and realtime digitizers such as a new one from Sunrize Industries and Newtek's popular Digiview, a whole range of usable and affordable software and peripherals is appearing. You can even title video with economically priced packages such as Zuma's TV Text, which the head of a New York video studio told us was already being used at a professional level. In fact there were at the Show many different professions represented who were finding the Amiga valuable assistance in business. One architect told us "The Amiga is doing for us what we had to take time on a $150,000 computer to do before."

Fleetwood Mac and Frank Zappa

The Amiga's musical capability is also finding substantial development. Mimetics have upgraded their Music Studio. They say that it's professional quality and is already being used by big name bands like Fleetwood Mac, Frank Zappa and Chick Corea. You can even combine it with a genlock to make your own pop promos.

Our favourite musical product was 'Music Mouse'. This is magically simple to use which lets even the rankest amateur create beautiful sounding and varied music. It is also delightful to look at (see Amiga New Releases in the issue). Among the other music products of note were Synthia, an $80 program and Exposure, a modular program of professional level at a higher cost. Desktop Publishing is about to be given a lift wi. two forthcoming high grade packages Gold Disc's Professional Page – a colour DTP package and Shakespeare which also looks very exciting. Both are priced at present around the $250.00 mark (£180). There were also other slightly lower level and substantially cheaper packages such as Pagesetter and Publisher.

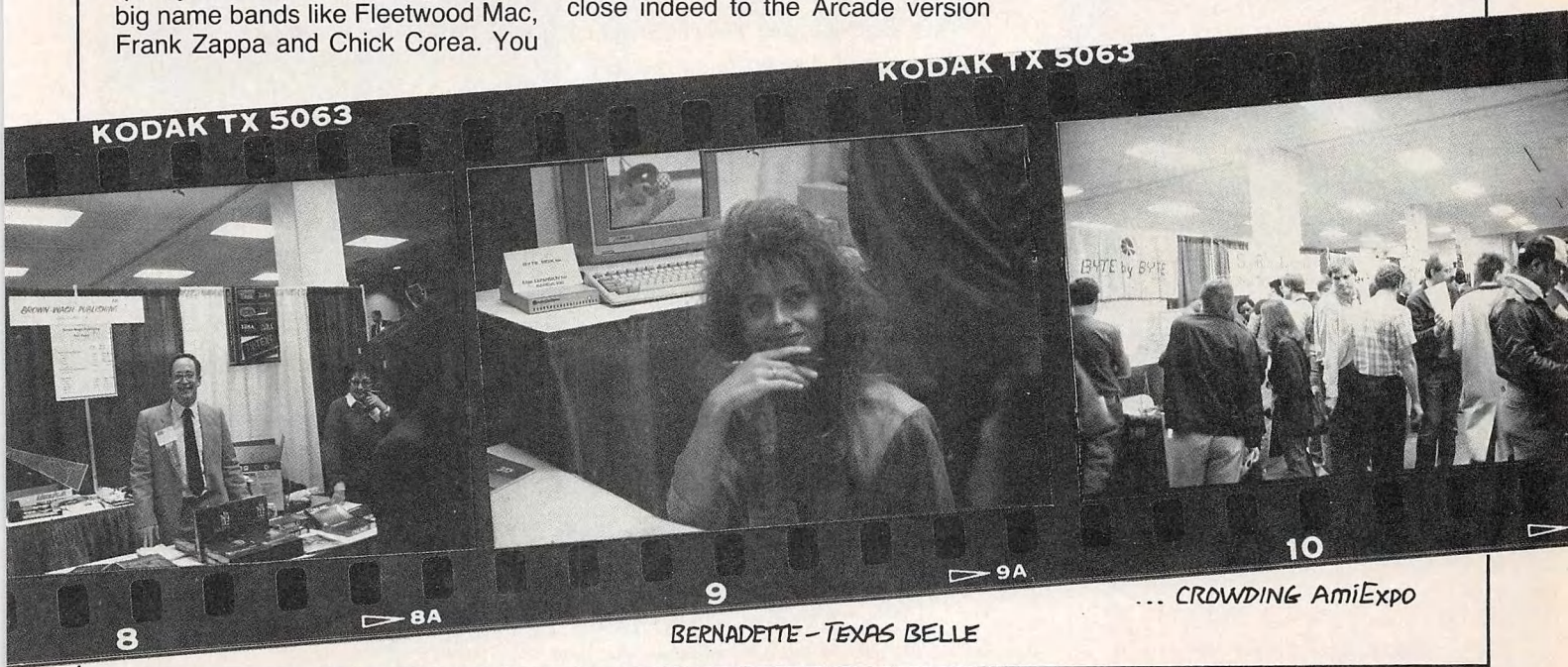
There were disk-based magazine from Jumpdisk and Vertex, Lattice and Manx with C Compilers, expansion systems that could take Amiga's up to 8Mg and hard disks offering up to 150Mg.

Arkanoid

On the entertainment side there were games from Psygnosis, Firebird with Guild of Thieves and the Pawn, Micro Illusions, creators of the hit Faery Tale, had a new game Firepower, Quasar, an ultra-fast highly-playable shoot 'em up from Canada and one certain chart hit, Arkanoid from Discovery. This is the same Taito arcade game that Ocean released on the 64. However on the Amiga it looks very close indeed to the Arcade version which is still in New York, we saw and around the world highly popular. Discovery are predicting a sale of 100,000 worldwide on this one, which would make it the biggest selling Amiga product yet. It will be priced at around £25.00, Discovery tell us.

That level of price was in no way beyond the pocket of most people who attended the Show. The visitors seemed generally over eighteen, prosperous and serious about the uses to which their Amiga could be put. They did not hesitate to spend the up to $100 – around £65 – that was being asked for many products.

They were clearly aware of what the Amiga could do for them and were willing to pay for it. They reminded us of the early days of the 64 before it became a machine being used by a really huge public. That situation may indeed be where the Amiga is now. Although now some 200,000 have been shipped by Commodore worldwide that is, in mass computer terms, still not a large number. The people who have bought it are largely second computer buyers. They want to grow with the machine and their attendance at the New York AmiExpo was in search of the way to make that happen for them. If this Show was the sign of the way that things are going in the Amiga world, it may not turn out much different in the end from the path that the 64 followed – even perhaps becoming the computer that will spread worldwide in huge numbers. Next episode in the Amiga Story . . . *AmiExpo. January. Los Angeles.*



BROWN-WAGH'S BOOTH

BERNADETTE – TEXAS BELLE

... CROWDING AmiExpo

DESKTOP VIDEO

TV*TEXT™

A Text Presentation Program for the Amiga

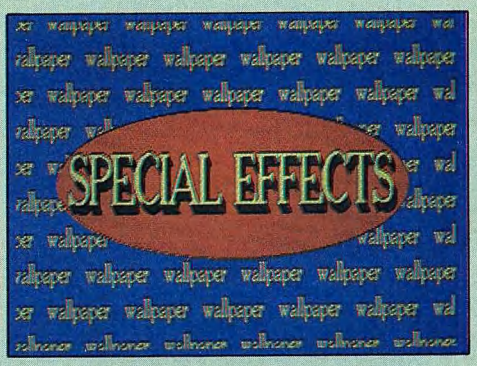
- uses 4096 colors
- adjustable light and depth
- italics, bold and underline

SAVE $50,000! **TV*TEXT** brings capabilities of the most expensive character-generators to you and your Amiga. Pocket all that money while you create professional quality lettering for presentation graphics or live video production with Genlock. **TV*TEXT** uses the mouse, high or medium screen resolution, the full Amiga palette of 4096 colors, NTSC, PAL, Overscan and IFF format.

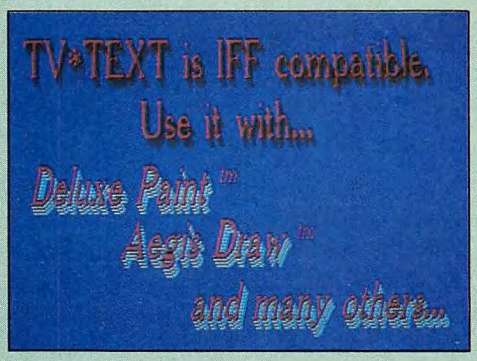
You can use any Amiga fonts, such as Zuma Fonts, workbench fonts, etc. Spacing can be adjusted and characters can be stretched, squeezed or even rotated! Text can be positioned with left/right justification or centering.

Make titles exciting with rendering attributes such as italics, bold, underline, outline, edge, extrude (3D), cast/drop shadows and strobes. Create attractive backgrounds using wallpaper or tile patterns. Then captivate your audience with special effects made by applying those attributes to lines, boxes, circles and ellipses.

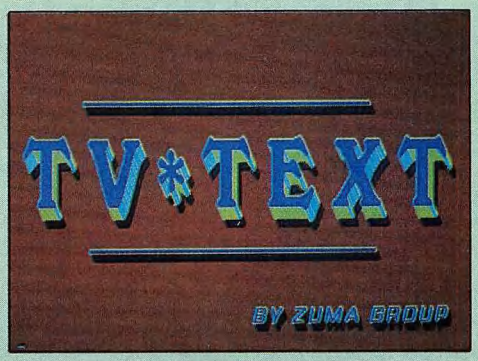
If you want to make your text look special, try **TV*TEXT**!



- wallpaper background pattern
- rendered ellipse with outline
- stretched character spacing



- use with IFF programs or GENLOCK
- 2 level strobe and drop shadow
- justify-center, left and right



- extruded (3-D) with drop shadow
- horizontal lines with outline & shadow
- different font styles and sizes

TV*TEXT
Only £99.95

Other products by **Zuma Group**:
Zuma Fonts Volume 1, 2, 3 — $34.95 each

See your local dealer or call:

Brown-Wagh Publishing

1-800-451-0900

1-408-395-3838 *(in California)*

16795 Lark Ave., Suite 210, Los Gatos, CA 95030

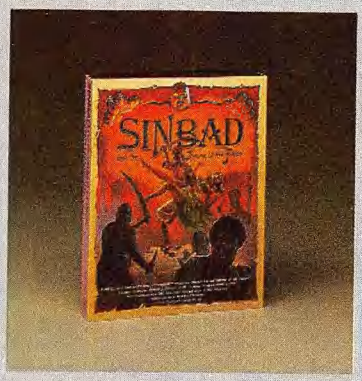
Dealers Call: APEX Resources, Computer Software Services, East Texas Distributing, Ingram Software, Micro D, National Software Distributors, Phase 4 (Canada), Silicon Valley Products, Softkat, Software House, Southern Technologies, Triangle. Amiga is a registered trademark of Commodore-Amiga, Inc.

STRATEGY SIMULATION

MIRROR Soft

ADVENTURE FANTASY

1



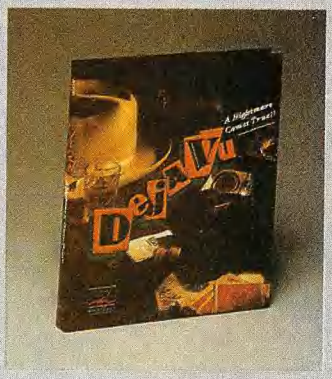
2

3

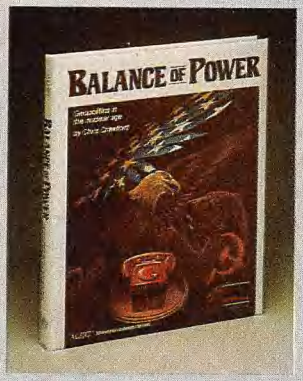
4

5

6



7



8

9

10

1. DEFENDER OF THE CROWN

"Defender of the Crown has set a standard that others will be hard pressed to meet." *Computer and Video Games.* **£29.95**

2. SINBAD AND THE THRONE OF THE FALCON

"A game to challenge anything on the market at the moment." *Personal Computer World.* **£29.95**

3. KING OF CHICAGO

COMING SOON

Pit your wits against the legendary Capone mob in a deadly battle for control of the Windy City. **£29.95**

4. SDI

Features "Top Gun" space combat with state-of-the-art flight simulator, romance, intrigue and heart-stopping action. **£29.95**

5. BERMUDA PROJECT

COMING SOON

Danger and adventure in the mysterious Bermuda Triangle.

6. UNINVITED

"The game is a classic of the graphic adventure game... If you like adventures, you had better not miss Uninvited." *Amiga User.* **£29.95**

7. DEJA VU

Set in a sleazy underworld distinctly reminiscent of Raymond Chandler, Deja Vu is like no other adventure you've ever experienced. **£29.95**

8. BALANCE OF POWER

"One of those games any serious games player cannot be without." *Popular Computing Weekly.* **£29.95**

9. GATO

COMING SOON

Take command of a GATO class World War II submarine in this award-winning simulation. **£29.95**

10. STRIKE FORCE HARRIER

COMING SOON

The most realistic simulation yet of flight and combat in one of Britain's most exciting fighter planes. **£24.95**

The publishers reserve the right to alter prices and specifications without notice. Please check prices and availability before ordering.

MIRROR Soft

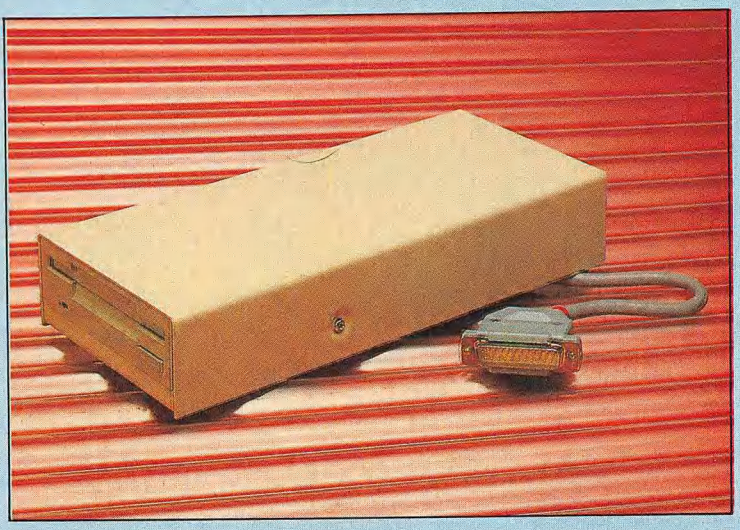
Mirrorsoft Limited
Athene House, 66-73 Shoe Lane, London EC4P 4AB
Telephone: 01 377 4645. Fax: 01-353 0565
Telex: 9312100112

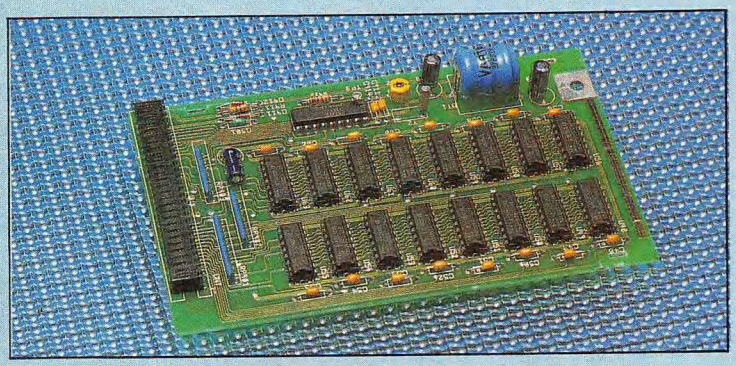
DATEL ELECTRONICS

EXTERNAL 3.5" DISK DRIVE

- Slimline 1 Meg suitable for A500 or 1000
- Top quality NEC drive mechanism
- Throughport for Daisychaining other drives
- Attractively styled ● Complete – No more to buy
- 12 months guarantee ● Fully compatible

ONLY £114.99 POST FREE
ADD (£5 for next day Courier delivery).

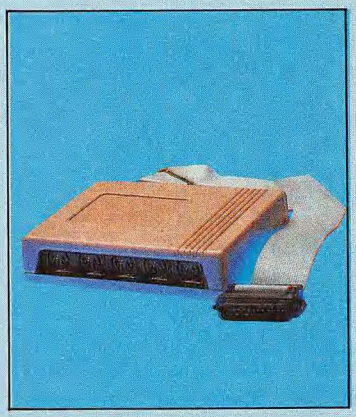




512K RAM EXTENSION ● A500

- Available with/without calendar clock option
- Simply plugs internally into a A500 slot
- Fitted in minutes – no soldering etc.
- With calendar/clock onboard time/date automatically booted
- Battery backed to retain time/date

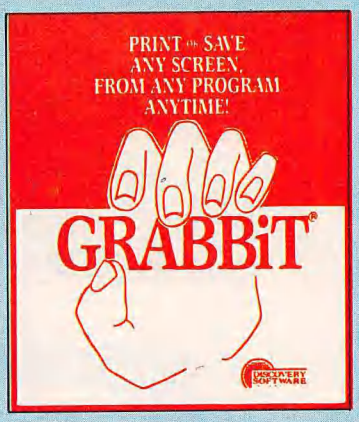
ONLY £79.99 FOR STANDARD 512K CARD OR
ONLY £89.99 FOR VERSION WITH CLOCK/CALENDAR



MIDIMASTER

- Full Midi Interface for A500/ 2000/1000 (Please state model)
- Compatible with most leading Midi packages (inc. D/Music)
- Midi In – Midi Out x 3 – Midi Thru
- Fully Opto Isolated
- No need to pay more – Full Midi standard

ONLY £34.99



GRABBIT

- Grabbit is a transparent Screen Grabber program
- Always there – simple key operation
- Drives dozens of Printers
- Requires only 10K Ram
- A true productivity tool!
- Very quick operation – does not require screen on during printing
- Free "ANYTIME" program lets you update your own colour palette preferences.

ONLY £21.99 POST FREE

MARAUDER II

● Quite simply the best disk copier available for the Amiga (all models)

- Superfast disk copier will copy almost any commercial disk
- Friendly user Interface – Mouse driven throughout.
- Completely compatible with Amiga multitasking system
- Even decrypts many encoded programs including D.Print/Video/ Paint/Music/II etc.
- Special 'Strategy Files' cope with even the most advanced protection schemes
- Supports upto 5 drives simultaneously for multiple copies
- Regular updates available – we always ship the latest
- Fast operation – typically around 80 seconds
- USA's top selling copier

ONLY £29.99 POST FREE

ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

HOW TO ORDER . . . .

BY PHONE	BY POST	BY PRESTEL/FAX
0782 273815 24 hr Credit Card Line	Send cheques/POs made payable to 'Datel Electronics'	Prestel Pages # 25880000A Fax Orders 0782 264510

DATEL ELECTRONICS

UNITS 8/9, DEWSBURY ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT

SALES ONLY	TECHNICAL ONLY
0782 273815	0782 202258

OGRE

by Origin Systems

In the world of myth and magic, ogres are sub-human giants, slow and clumsy and with little intelligence but blessed with a tough hide and a brutish strength.

The ogres of the high-tech 21st century are far superior — they have greater power, are fast and manoeuverable, have almost impenetrable skins and possess an intelligence way above that of mere mortals. These ogres are man-made — they are the latest cybernetic supertanks, computerised killing machines of awesome might and ability, crewless but programmed to annihilate anything that gets in their way.

In this one or two player computer version of Steve Jackson's popular strategy board game, you are tasked with defending a command post against the onslaught of one of these mechanised, multi-weaponed, armour-plated Ogres. Convential forces such as nuclear-armed tanks, speed vehicles, howtizers and specially-equipped infantry are at your disposal.

The Ogre's objective is to wipe out your command post and to destroy as many of your defences as possible. Your job is simply to stop it.

The game is played using either mouse, joystick or keyboard; a handy reference card details use of the keyboard, shortcut commands and other useful information. In a one player game, the computer takes control of the Ogre — not daft, is it?

Defence Strength

The battlefield is represented on screen as a map of hexagonals, each hex representing an area of 1500 metres across. Although the full width of the map fits on to the screen, only half the length can be accommodated. You can see the other half immediately by clicking on the arrow at the top left and bottom left corners of the map, or advance the map up or down by one hex by clicking on the right corner arrows.

Some hexes are shaded or marked differently to represent craters and rubble. Nothing can move across craters (although anything can fire across them) and only Ogre and infantry can cross rubble.

Each combatant has four ratings: attack strength (a weapon's destructive power), attack range (effective distance a weapon can reach), defence strength (a unit's capability of withstanding damage) and movement (number of hexes a unit can move in any one turn).

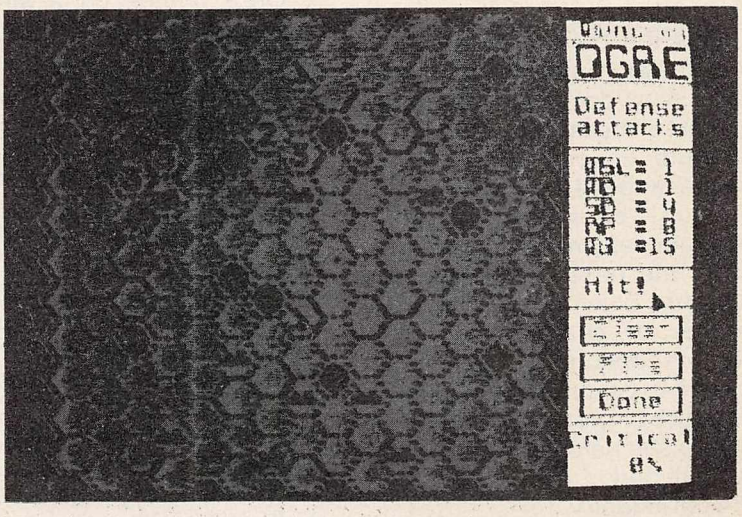
There are five predesigned battlefields to choose from but a built-in editor allows you to create or modify battlefields to suit yourself. A maximum of five of your own battlefield creations can be saved to disk. In addition, up to five game states can be saved and loaded back from disk at any time.

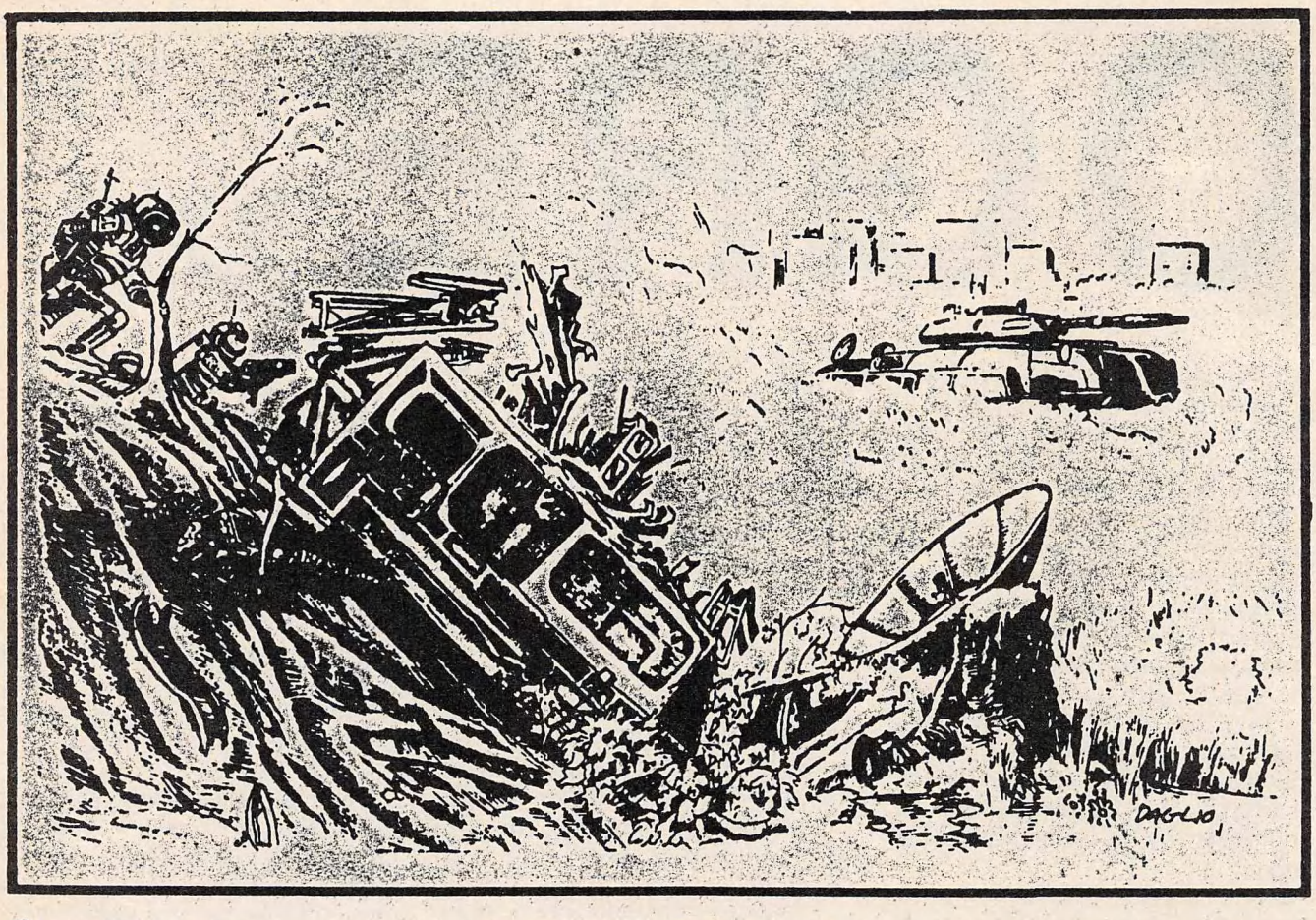
Forces opposing Ogre consist of heavy tanks, missile tanks, howitzers, ground effect vehicles (GEVs) and infantry.

The heavy tanks are as fast as Orge, except when navigating around rubble. The trouble is, a heavy tank has to get in close to Ogre to fire upon it effectively, leaving it vulnerable to almost all of Ogre's weapons, not to mention the danger of being crushed beneath Ogre's treads.

The missile tank is smaller, slower and less heavily armoured than its brother but it does have a good range, allowing it to pound away at Ogre while out of range of retalliation.

Howitzers have a long range and destructive fire power but they are all but defenceless. They can't move, either. GEVs are fastmoving but have a limited range and movement. Infantry travel in groups of one to three squads (6-8 men per squad) and are armed with conventional and anti-tank weapons and special battlesuits that allow them to cross rubble that would stop other armour units. Their attack range is severely limited and they are slow movers so if they get to the rear of Ogre, they'd better watch out that they don't get left behind when Ogre advances on the command post.





Ogre Escapes

As in traditional war games, the game evolves in a cycle of phases. At the beginning of a game, Ogre gets to choose its entry square but thereafter the sequence is: Ogre moves, Ogre fires, defence moves, defence fires, GEVs get to move once more. During the player's turn, all or any of his units may be moved and may fire. Movement and firing is accomplished by pointing and clicking on the desired hexes, pop-up menus and dialogue boxes.

A panel at one side of the screen displays the current phase of the game, the attributes and conditions of the pieces, command options and any game messages. One of the command options allows you to view the range of movement and fire of a piece — all of the hexes within a piece's movement value turn green and all the hexes within its firing range turn blue. In case you make mistakes or change your mind, there are options to take moves back and to deactivate any weapons aimed at a target — but these must be exercised before the next phase. A further option lets you group or split your infantry.

At the base of the panel, an indicator gives you some idea of the probability of killing the current target with the selected weapons. The map and display are continually updated to show the present state of the opposing forces.

A typical, single game can last between 1 and 2 hours and ends in one of three ways: then all the defending units are destroyed, or Ogre escapes off the bottom of the map, or all of Ogre's weapons and treads are obliterated.

Ogre comes on a single disk, handsomely boxed and complete with glossy 28 page instruction manual, a 28 page strategy guide, a reference card and your very own radiation detection badge.

The game offers a first rate challenge yet is quite easy to get to grips with, thanks to the well thought out design. Before or during a game, Ogre also lets you customise certain features such as sound (on/off), skip empty turns, reminders (on/off), modify message speed and set Ogre's skill level (3 levels). Sound effects and graphics are satisfactory without being particularly noteworthy. The inclusion of a battlefield editor ensures the longevity of the game and the player's interest.

All told, one of the better war strategy programs around. If this type of game is your forte then Ogre should be right up your alley. It's big and tough — but then that's just how an Ogre should be.

B.C.

Contact: Microprose Software Ltd,
2 Market Place,
Tetbury,
Gloucestershire
GL8 8DA
Price: £24.95

ADVERSA

SIMPLY MEGA !!

HAUTE CUISINE FOR YOUR AMIGA – AT TAKE AWAY PRICES

FAERY TALE ADVENTURE
£ 29.50

DIGI-PAINT
£ 39.50

EXTERNAL 3.5" DRIVE
(NEC 1036A, ESPECIALLY MODIFIED)
(FOR 500, 1000 & 2000)
£ 125.00

AEGIS VIDEOSCAPE 3D
£ 130.00

GARRISON
£ 23.00

WORD PERFECT
£ 215.00

PRICES INCLUDE VAT & POSTAGE AND PACKING. CALL OR WRITE FOR OUR LATEST LIST.

SIMPLYMEGAWARE

SIMPLY MEGAWARE LTD
49 Links Drive
Solihull, West Midlands
B91 2 DJ
TEL: 021 705-3570

GTI

Outside U. K. and Dealer Enquiries
G.T.I. GmbH
Oberhöchstädter Strasse 53b
6370 Oberursel, West Germany
TEL. (010 49) 6171 5 38 63

SOFTWARE EXPRESS
COMPUTER SYSTEMS LTD

EVERYTHING FOR THE AMIGA

THE ONE STOP AMIGA SHOP

A500, A1000, A2000

WE ARE THE SPECIALISTS!

SOFTWARE - HARDWARE - PRINTERS - MONITORS - CABLES - DISKS - BOOKS - ACCESSORIES - ETC.

AMIGA MAIL ORDER - *WE ARE THE FASTEST* – PHONE (021-328 3585)
AMIGA SHOWROOMS - *WE HAVE THE LARGEST* – 9.30 to 5.30 - 6 DAYS A WEEK
AMIGA SOFTWARE - *WE HAVE THE BEST!!* – UK AND USA - IMPORTED

**514-516 ALUM ROCK ROAD,
ALUM ROCK, BIRMINGHAM
B8 3HX
PHONE: 021-328 3585**

PLEASE SEND ME YOUR LATEST PRICE LIST
NAME .....
ADDRESS .....
.....
I OWN AN A500/A1000/A2000/NONE

EXPRESS PAINT

The Amiga's graphics capabilities have probably sold more machines than all the business programs put together. Artist and journalist Peter Lee examines the latest in a new breed of art packages aimed at the desktop publishing market.

Computer art is all around us. Every day on TV we're bombarded with phenomenal examples. And it's only since the introduction of the Amiga that home users have been able to approach the kind of graphics sophistication needed for serious work. Glancing down any software list instantly reflects the Amiga's bias towards graphics — so any new art program has got to have plenty going for it if it's to survive. Which is where EXPRESS PAINT from PAR software comes in. Comparing it with other paint programs isn't feasible, because while it shares many features common to almost all drawing utilities, it packages them, and innovative ones, in a new and interesting way.

Express Paint started life as Vdraw — a 'shareware' program available in Public Domain. That was around 2 years ago, since when it's been completely re-written and re-christened. It's totally icon driven, with colour and tool menus constantly displayed, input coming almost exclusively from the mouse, with key input kept to a bare minimum. On entering the program from either its own workbench, a workbench screen or the CLI you have to fill in a parameter requestor:— indicating such things as screen width, height, number of colours in the palette and overlays.

At this stage what's really innovative is that Express Paint uses the Amiga's under-used 'Extra half bright' mode to double the standard palette of 32 colours. So you can actually work with 64 hues. The manual warns that some 'older' A1000s may not be able to take advantage of these extra colours; but my A1000, which I bought a year ago, was fully compatible. A2000s and A500s are also all OK.

Clip-Art

Before you get carried away though, it's important to realise that the second set of 32 colours are dependent on the prime set of 32; altering the red, green or blue component of either will be reflected in its sister colour, so there aren't 64 independently editable colours. You can specify the number of colours you want the palette to contain from start-up; the few you choose, the larger the amount of memory left for the actual artwork. Screen width and height is restricted by available memory, and those owners with memory of 1 meg or more may have a 2-colour picture 2880 pixels wide by 960 high — which is about 4 VDU screens wide. Obviously to print this monster, you'd have to amend Preferences to alter the Aspect function to vertical instead of the default horizontal. Interestingly, you can launch into Express Paint by hi-lighting a previously saved brush icon or a picture, which opens up your drawing screen with the items you've selected in memory — very handy for often used clip-art, cutouts and the like.

I very much liked the option which allows you to either load the entire program into memory or use the overlay option, which frees more memory for graphics and loads the different utilities from disk whenever you need them.

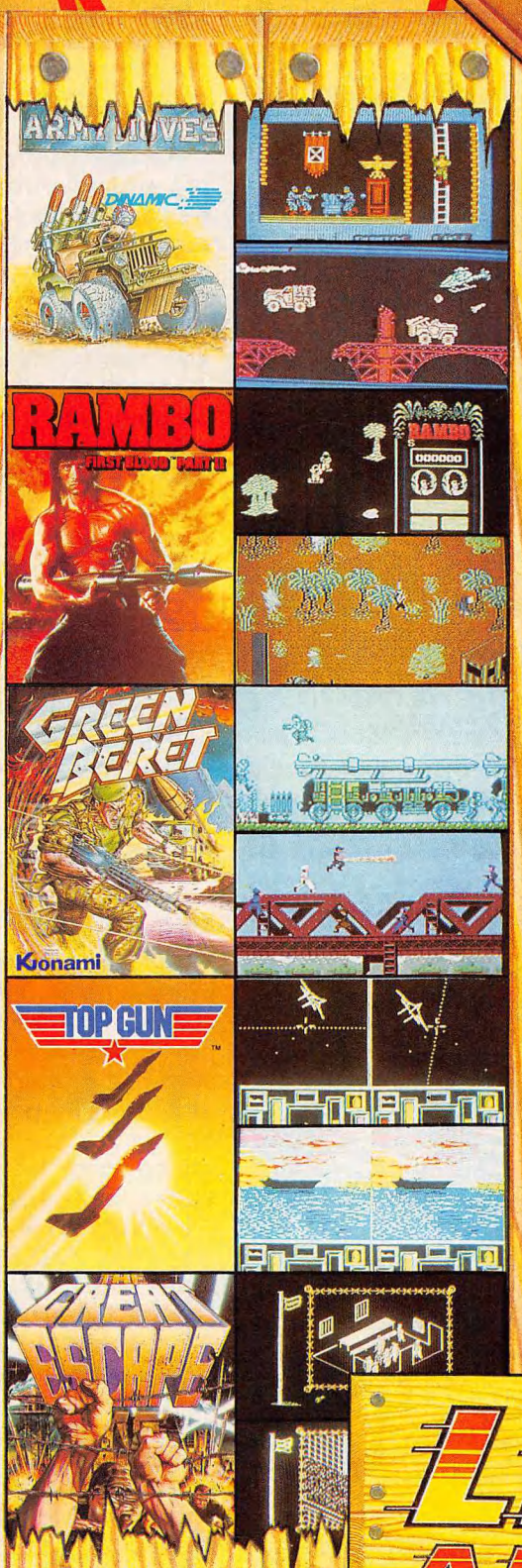
Express Paint is also very friendly in allowing Overscan — the ability to use the Amiga's full screen depth (256 lines in Europe — only 200 in the US). This can be turned on or off from the Workbench, when the configuration is re-written to the disk so you always boot up in your chosen overscan mode. In use the program is straightforward, but drawbacks are all too apparent; that's not to say that it isn't value or money, but there are a few clouds to the overall silver lining. For instance when you invoke a grid to help with precise alignment, the grid is drawn on screen (as perhaps dots at specific intervals, or full grid lines), and becomes part of the picture — which means you have to through the chore of erasing it once your picture is complete. Another niggle is that you can't get rid of the menus to display an entire screen. Moving about the larger-than-screen image is easily done by using scroll arrows or keyboard, but if, like me you either want to photograph a screen or record it on videotape, you'll have to save it and use a slideshow utility (which isn't provided by the way). And although Express Paint allows fine detail to be executed in its excellent full-screen zoom window, the fact that the original-sized portion you intend editing is totally obscured by the magnified portion does tend to dull its usefulness. However, along with the 64 colour option and large drawing area, what does raise the power of the program are the desktop publishing options.

Text Flowing Paper

The program is certainly not a dedicated DTP utility, but along with its graphics manipulation comes the ability to create extremely professional-looking pages for such things as business reports, newsletters, handbills or posters — and multi-coloured ones at that. Text can be any ASCII file saved from a word processor, but it's easier to use the Workbench notepad; this can be opened while Express Paint is running, thanks to the Amiga's multi-tasking ability. Having chosen a font (the program comes with the usual Amiga defaults but allows as many different fonts as your disk or RAMdisk have room for) the text can be streamed into a pre-defined area, with complete control over justification and positioning.

One absolutely superb feature allows you to flow text around any irregular-shaped object. This facility alone lends a professional touch to any illustrated document. But in complete contrast, input from the keyboard appears clumsy by comparison; text is entered in a box which opens at the bottom of the screen, and once completed is positioned by means of the mouse. What this does allow for is text style changes after your words have been entered in the box, but if your line of

DON'T MISS!...



5 ALL-ACTION COMPUTER HITS

LIVE AMMO

ARMY MOVES

You are a member of the SOC (Special Operations Corp) a crack regiment of Specialist Commandos picked for the most dangerous missions. Locked in a safe at the emeny headquarters is information . . . information so vital that the turning point of the conflict depends upon its discovery. To get to the headquarters means crossing jungles and deserts, manipulating many forms of transportation and harnessing a variety of weapons systems. Only the best will succeed on this deadly venture . . . Will you be one of them?

©Game Design Dinamic

RAMBO FIRST BLOOD PART II

The box-office smash converted for your home-micro that rocketed to the No. 1 spot is now offered to you in this amazing LIVE AMMO action pack. As Rambo you have a formidable array of weapons which you will need against an equally formidable enemy. Rescue your friends and escape by helicopter—If you get that far!

©1985 Anabasis Investments N.V.
All rights reserved. TM used by Ocean Software Limited under authorisation of Stephen J. Cannell Productions, Licensing Agent.

GREEN BERET
RESCUE THE CAPTIVES!

You are the GREEN BERET, a highly trained combat machine. Your mission; Infiltrate all four enemy Strategic Defense Installations—you are alone against immeasurable odds, have you the skill and stamina to succeed? A slick conversion of the arcade favourite displaying all the play features of the original.

©Konami

TOP GUN

The "TOP GUN" game puts you in the pilot's seat of an F-14 jet fighter. 3-D vector graphics and split screen display allow one or two players to combat head to head or against the computer. Your armaments in this nerve-tingling aerial duel are heat seeking missiles and 20mm rapid fire cannon. Many skills have to be brought in to play such as reflexes, manoeuvring ability and accuracy to become the best of the best. "Top Gun" mavericks enter the danger zone!

TOP GUN TM & © 1986, 1987 Paramount Pictures Corporation. All Rights Reserved.

THE GREAT ESCAPE

The year is 1942, the place Germany. War has broken out and you have been captured and placed in a high security P.O.W. camp. Victory may be far away, so it is your duty to escape, but this will not be easy. It will take careful planning and much patience, culminating in a skilful and resourceful implementation. In the camp you are closely guarded but while you follow the daily routine you will need to slip away unnoticed to reconnoitre the situation and collect tools and materials necessary for your chosen escape route. There are many avenues of escape, some difficult, all certainly dangerous and each one requiring different skills or equipment.

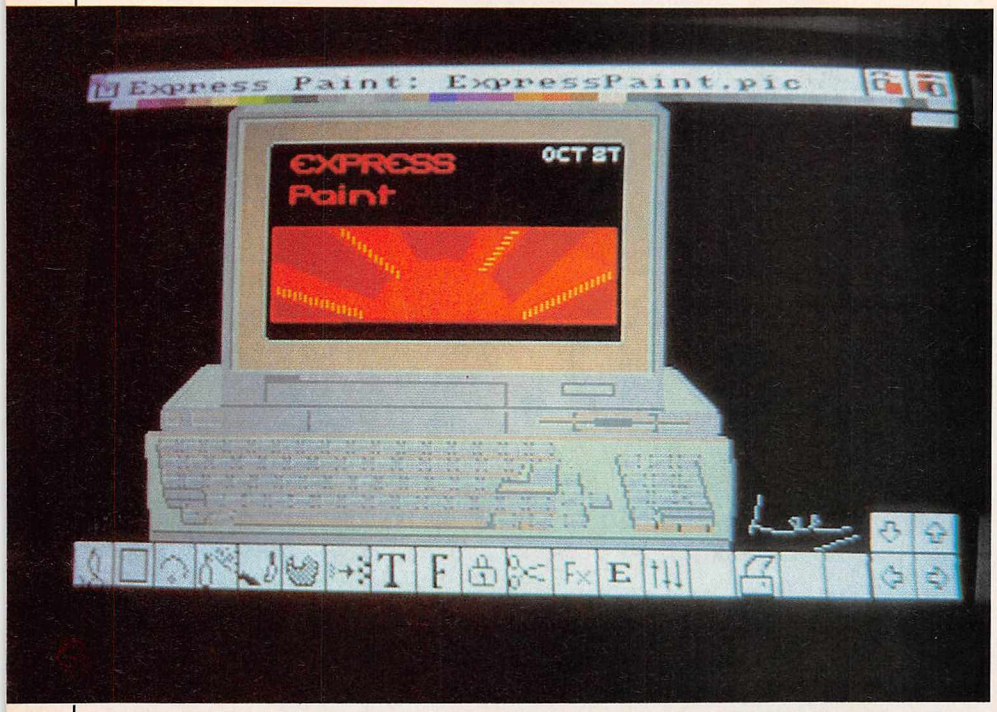
Game Design Copyright Denton Designs 1986.

Screen shots taken from various computer formats

AMSTRAD
COMMODORE
SPECTRUM
9.95
CASSETTE

AMSTRAD
COMMODORE
SPECTRUM
14.95
DISK

Ocean Software Limited · Ocean House · 6 Central Street · Manchester · M2 5NS · Telephone 061 832 6633 · Telex 669977 Oceans G



WITH ITS GRAPHICS MANIPULATION COMES THE ABILITY TO CREATE EXTREMELY PROFESSIONAL-LOOKING PAGES.

text is longer than the page width, you lose whatever doesn't fit. Font styles aren't reflected as you type, so you really don't know which font you're using until it's time for placing it on the screen. This inability to type directly on screen also hinders the use of vertical labelling, which has to be done painstakingly a letter at a time.

Multiple Cuts

Using the program as a drawing utility has been simplified by the excellent menu structure; the control panel which opens to show facilities for each of the available tools as they're selected offers many powerful functions.

A quick run-through should indicate the potential — lines, boxes, rubber-banded in any of 16 styles and four brush 'weights'; full rubber-banded position of circles, ellipses and arcs with pie-chart style wedges and a neat double-point curve option. You can also specify arrowheads to be drawn automatically at the ends of lines (for scaling and so on). Box control comes in a number of styles, including open, solid and complement (which reverses the existing colour); there's a spray tool with a variable spread and radius, and any colour's red, green or blue component can be edited.

Concentrating on Express Paint's more potent features, there's the ability to cut and manipulate any area of your drawing, from a small fragment to a whole screen (depending on memory constraints). Although cuts are rectangular (ie no lasso cutouts) you can in effect turn them into cutouts by using the program's facility to make any colour transparent. Multiple cuts (or brushes as they're also called) can be in memory at once — an exceptional advantage when it comes to routine work such as component placement on a PCB or room furniture lay-out. These brushes can be saved and re-loaded, and manipulated in a number of powerful ways, including full rotation and resizing, with the bonus of a 'ghost' option which reproduces the cut in a kind of dot mode. You can use a cut as a brush to give a continuous stroke, or simply stamp it anywhere on the drawing. These facilities are available in the FX tool; this area allows subtle manipulation of the currently selected cut including masking out unwanted colours, making them transparent, mirroring either horizontally or vertically, and stretching.

While Express Paint doesn't boast dual screens like some programs, it does allow you to 'protect' any sized areas, enabling you to then edit your drawing, secure in the knowledge that if you mess up, your original can be called back from memory. And by coming to grips with this useful feature, it's possible to part load other drawings into windows in your current work, and these can be merged onto what's already there if you like.

Another major series of options are available from the Fill tool; as well as solid colour and pattern fill (which uses the currently active cut) you can stretch the cut either horizontally or vertically to simulate perspective while filling. It's in this area that text flowing is controlled. And probably the key feature of the program — the print options. Having selected your printer from the Workbench Preferences, you still have enough control to alter the actual proportions of the dump, which has a nice facility for printing in the correct ratio to allow printers to produce circles correctly (instead of the more common fault which makes a circle print as an ellipse).

The manual is built-into the box, and has sections for the beginner as well as the expert; it's competently written, and gives step-by-step instructions I found very useful. A reference card is also included.

Conclusion

This program both enthralled and irritated me; one minute I was cursing it for using the same mouse pointer arrow as the workbench screen, the other I was marvelling at its text flowing power. By editing the pointer to, say, a crosshair from preferences, I found exact positioning was made easier. Use of the 64 colour Half bright mode is innovative and offers a splendid range of colours, but the inability to remove the menus was restrictive. Large-scale drawings are easily scrolled, and have the potential for some eye-catching graphic dumps. The program has enough worthy features to outweight the not inconsiderable shortcomings, and for the price it offers subtleties not available in one package before; my advice — test it before you buy.

P.L.

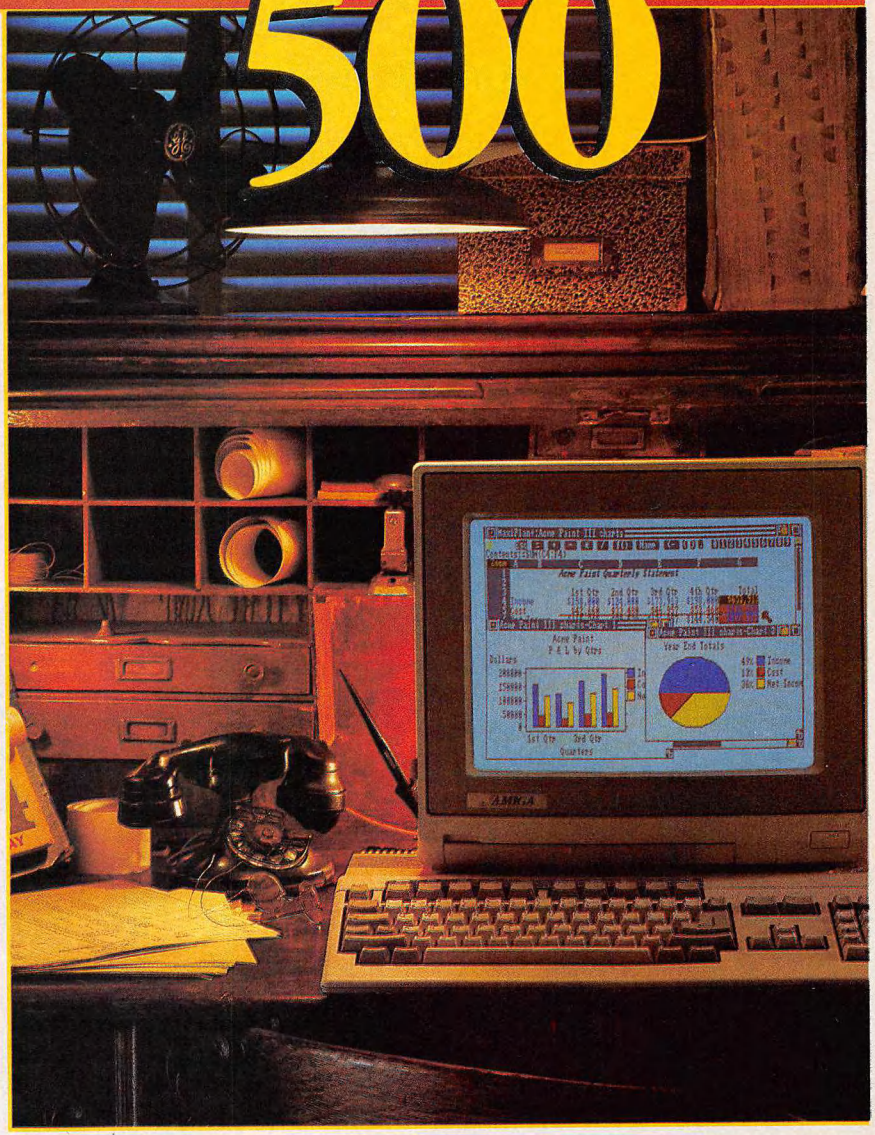
Contact: PAR Software Inc, PO Box 1089, Vancouver, Washington WA 98666 USA. Price £58.00.
UK Distribution: Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh EH1 3RN. Tel: 031 557 4242.

MaxiPlan 500

MaxiPlan 500 is designed for a 512K memory environment without sacrificing any of the features which makes MaxiPlan the most powerful and easy-to-use spreadsheet program for the Amiga. Named Spreadsheet of the Year for 1986 by a poll of Amiga Users Groups, MaxiPlan will soon become your choice for spreadsheet analysis, database management, and business graphics.

For more advanced spreadsheet analysts, **MaxiPlan Plus** is available with a Macro Language facility similar to Microsoft Excel. Over 95 Macro Functions allow the creation of mini-programs to automate spreadsheet activities.

As your dealer about MaxiPlan 500 and MaxiPlan Plus as well as these other programs from Oxxi.



Nimbus — Cash Basis Accounting System for Small Businesses

Customers and vendors are taracked by name, rather than by number. Pre-defined invoices provide a summary of customer account aging. Pop-up mini menus guide the user through each account activity. Nimbus is for the small business person who does their own books and hates learning about formal accounting systems.

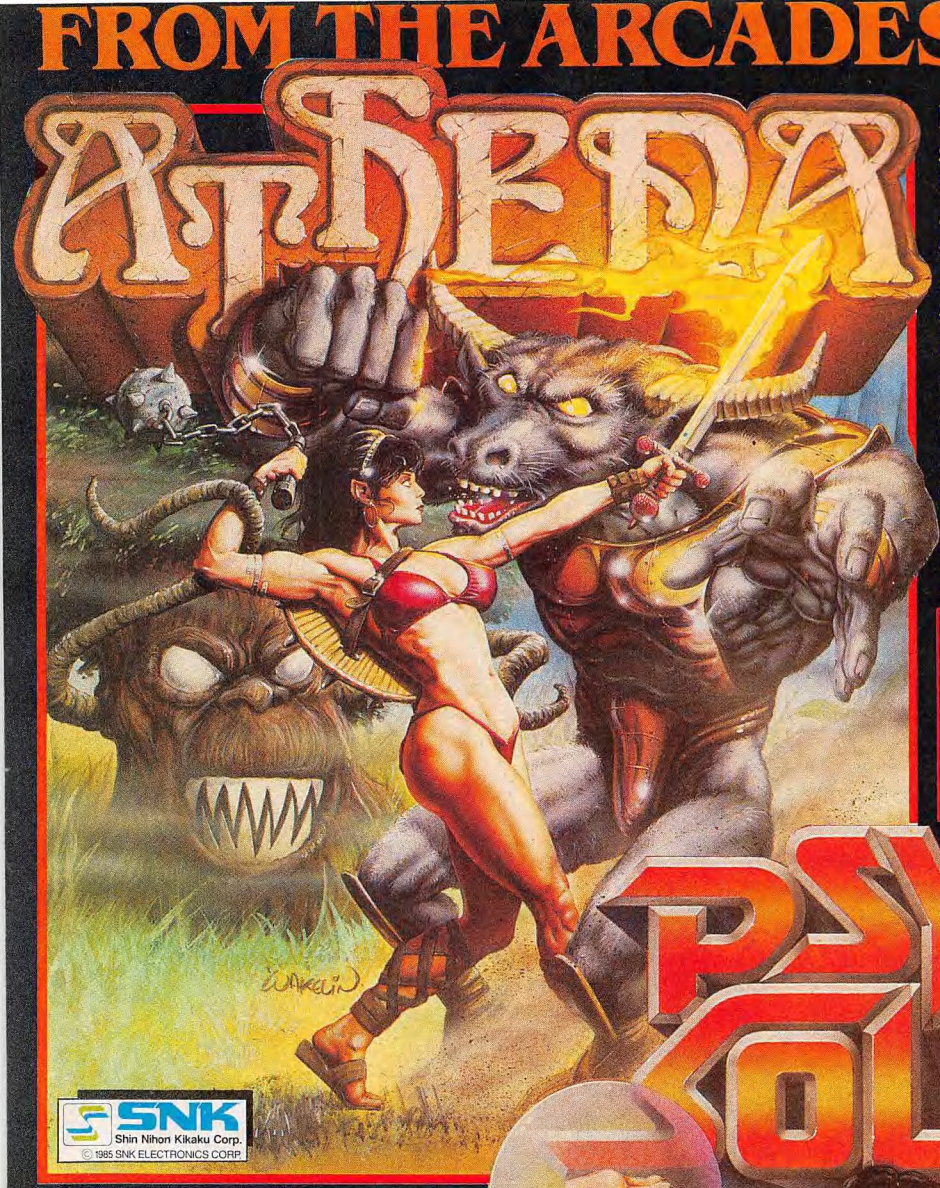
Benchmark Modula-2: Software Construction Set

Integrated Compiler, Editor and Linker. Compilations of densely packed code averages 10,000 lines per minute with burst speeds of 30,000 lines per minute. Add on libraries include: "C" Language Standard Library, Simplified Amiga Library, and Graphic Image Resource Library.

Maxiplan 500	U.S. List £149
MaxiPlan Plus	U.S. List $199
Nimubus	U.S. List $149.50
Benchmark Modula-2:	U.S. List $199
Add-On Libraries (each)	U.S. List $99

Oxxi inc.
P.O. Box 4000
Fullerton, CA 92634
(714) 999-6710
(714) 999-1045 (FAX)

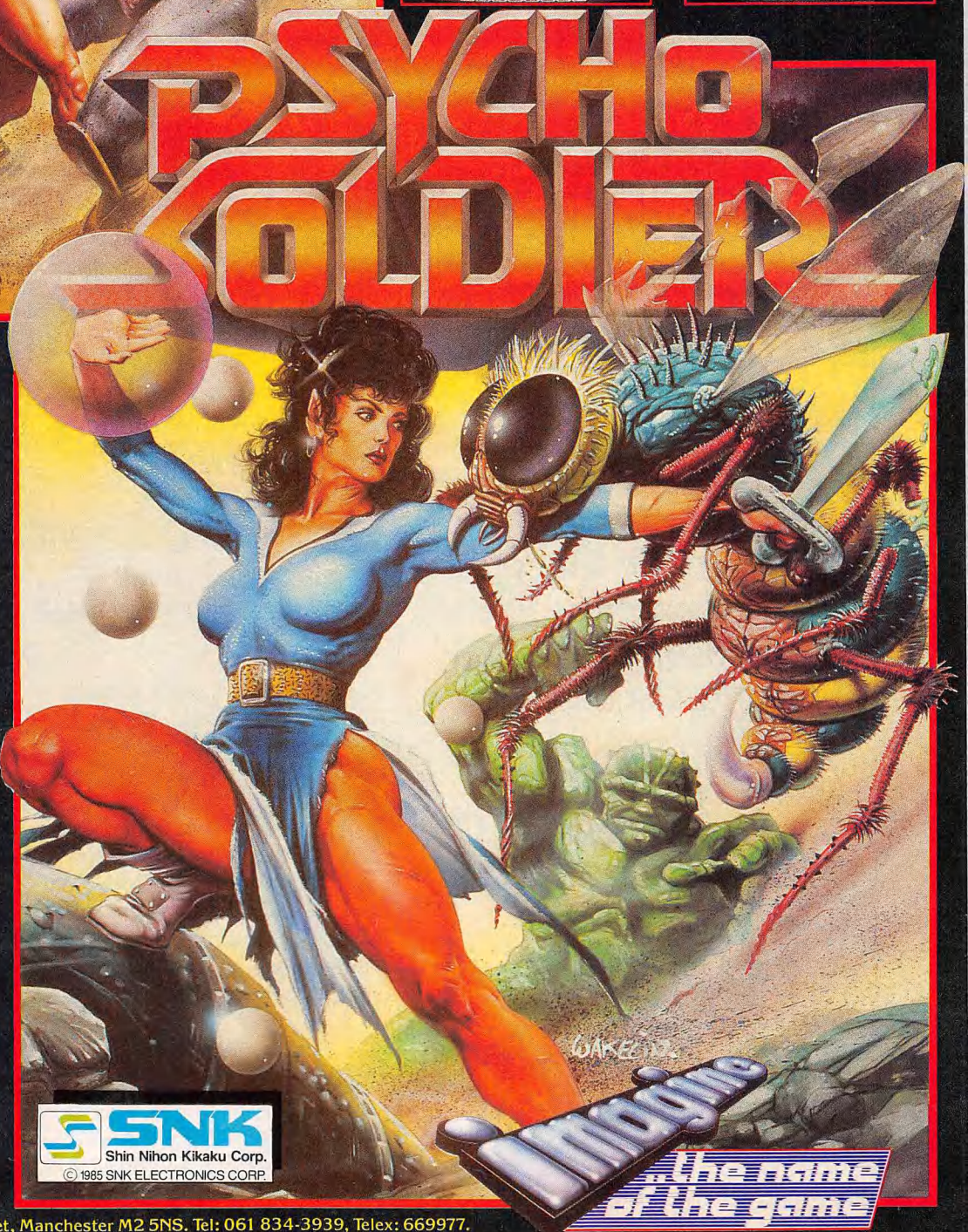
FROM THE ARCADES-A TIGRESS!



Her mission, to enter the last world and slay its evil guardian, but the last world is seven worlds away on a long and dangerous journey through the worlds of forest, cavern, sky, sea, labyrinth and hell, each having its own formidable guardian which must be overpowered and slain. Collect armour and weapons but beware the energy sapping poison for which only a secret medicine is the cure. Superlative graphics and arcade style action game play add up to a great package for the coin-op kings.

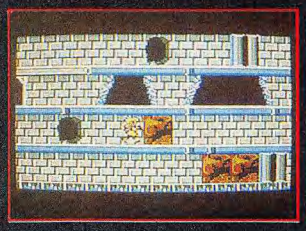
SPECTRUM £7.95 COMMODORE £8.95
AMSTRAD £8.95

SNK
Shin Nihon Kikaku Corp.
© 1985 SNK ELECTRONICS CORP.



Athena isn't finished yet Physco Soldier, the sequel, is another world. Athena has changed and she has a friend. She is Physco Soldier with a thirst for action and adventure and when her mission is complete you just won't believe the ending – a surprise you can't afford to miss! A great game, tipped for the top, from the SNK arcade label.

SPECTRUM £7.95
COMMODORE £8.95
AMSTRAD £8.95



SNK
Shin Nihon Kikaku Corp.
© 1985 SNK ELECTRONICS CORP.

imagine
the name of the game

Imagine Software Limited, 6 Central Street, Manchester M2 5NS. Tel: 061 834-3939, Telex: 669977.

PREVIEWS

ELECTRONIC ARTS

EA's move into the European market doesn't mean that they are just bringing over the old titles that never crossed the Atlantic before. They are creating a growing stream of new and lively products which they are releasing in quick succession. They seem to be designing them to satisfy all tastes, from the more serious flight simulator enthusiast right across to the RAD street action freak.

We have got hold of three of their forthcoming releases to let you know what you'll probably be playing in the next few months.

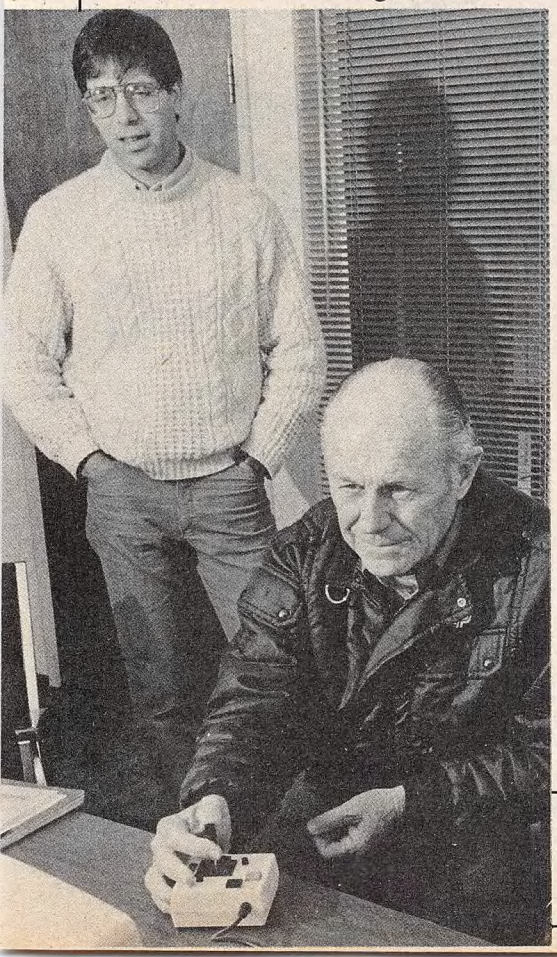
Yeager's Advanced Flight Trainer

Chuck Yeager, as everyone who saw the hit film "The Right Stuff" will know, is one of the greatest flyers of all time. Totally confident of his flying skill and the rightness of his approach, he fought as much with the authorities as the forces of gravity and the extreme dangers of sound-barrier cracking speed. Apparently fearless, he declared "The real hero is the test pilot who somehow manages to survive . . ."

EA's Advanced Trainer, programmed with Yeager's full collaboration lets you learn how to carry-out take-offs and landings and stunts like aerolon rolls, Cuban 8's and even hammerhead stalls. You can also try daredevil speeding through gates, zipping in and out slaloms and hurtling round skyscrapers. Not for the faint-hearted these!

There are 14 different aircraft you can pilot including mach-speed and experimental jets. The aerodynamics of the computer versions are claimed to be accurately represented of the 14 aircraft and you have 10 distinct viewpoints from which to watch your own performance, which if it is good enough is assessed using authentic test pilot evaluation charts. You can use "black box recorders" to save your best stunts and air races.

Chuck Yeager's Advanced Flight Trainer has been very successful on the PC range and is now coming out for the 64/128. Price £9.95, £11.95, £12.95, £14.95.



BRIG. GENERAL CHUCK YEAGER AT THE CONTROLS OF HIS NEW COMPUTER SIMULATION, CHUCK YEAGER'S ADVANCED FLIGHT TRAINER

Skate or Die!

RAD magazine — the UK's top street sports publication — tells us that they used to be called BMX Action Bike. Why did they change their name? Well, it seems that they are jumping onto the returning bandwagon — or skatewagon might be a better term — of skateboarding. The boards that were hip a few years ago are back again snazzed up, bestickered and totally RAD. The word is that you Go skate or Go home, Skate and Destroy, or as EA lays it down — Skate or Die!

Their new computer game takes the turn-again fashion and smashes those boards clean through your screen. There are three real aggro nasties for you to face. You have to cream Poseur Peter, wreck Aggro Eddie and then you are ready to take on Lester. Just plain Lester is stupid, mean and ugly. And if that isn't enough you are in for a surprise 'cos he's bionic, too.

There are five events when you hit the skating streets — you can smoke the half pipe, roaring up and down the ramp; you can go head to head against up to three other skaters in jousting with death; you can karate chop your way down the toughest alley on the block or you can go freestyle or take on the high jump and frighten yourself to death on the downhill.

Skate or Die! was created by Michael Kosaka, Stephen Landrum and David Bunch. Together and separately they can take credit for such hits as Temple of Apshai, Destroyer, GFL Championship Football and the Epyx smash Summer Games.

Skate or Die! must be worth taking a look at. RAD Magazine is carrying a sticker for it on the cover of a forthcoming issue. (It will have to be good to get Nick the Office Skate-freak away from his latest favourite. He sat down and played with Jack the Nipper II for a whole day. Is that a record for someone who sports an Anarchic Adjustment Tee shirt and believes that RAD spells "Read and Destroy"?)

Skate or Die! will hit the streets in December priced (U.K.) £9.95 (c) £14.95 (d).

Mini-Putt

If you don't like flying and skateboarding doesn't turn you on, EA says "How about sports?" No, it is no ordinary sports simulation though. It is Mini-Putt — a fun more than a serious game. In Mini-Putt you'd better expect the unexpected. There's a whole variety of oddball courses where there are hazards and obstacles that no-one in their sane mind has ever seen on a course on this planet. And the problems often just spring to life when you least expect the. A serene putting green can suddenly leap and gobble up your golf ball!

You see a three window display — the play area, a general overview of the green and a close-up of Mini-Putt Pete, the hacker you embody.

EA claims that Mini-Putt not only tests your skills with joystick but that it ends up testing your sanity (which is not going to happen around here! We'd all fail!) Mini-Putt is the first product released by EA from Accolade since they took over that renowned software creators representation in Europe. It will come out shortly on disk for the 64/128 at £9.95 in the U.K.

MS-DOS AND THE AMIGA

by Kevin Stevens, secretary of the UK Amiga Users Group

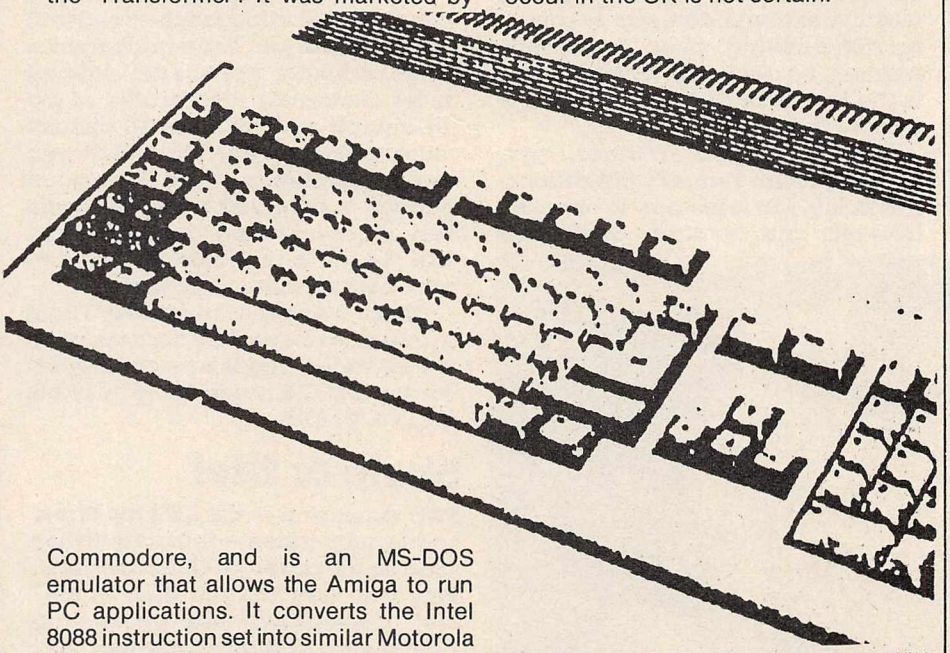
As most people are probably aware, the Amiga 2000 is capable of running MS-DOS software by the installation of a PC emulation card and 5" disk drive. The emulation card can virtually be regarded as a computer within a computer, it being an IBM PC clone which fits onto the Amiga 2000 expansion bus and uses an Amiga screen or window for its video output, and the Amiga keyboard for input. When installed, the PC processor (for XT compatibility an Intel 8088 or for AT compatibility the Intel 80286) and the Amiga processor (Motorola 68000) can both be operating at the same time, working on two (or more, in the case of the Amiga) different tasks. The machine operating in this state can be said to be 'multi-processing' and is different to multi-tasking in that the time given to a particular task by a processor is not divided between the tasks in the system, as they can access their own processor.

The advantages of running more than one processor at once may not be immediately apparent, so I will explain further. Because all of the input and output for the PC emulator is done via the Amiga architecture, information stored for use with a PC program can be easily transferred to an Amiga application, and vice versa. Also, because both processors can be running at once, a PC application can be running in the background either printing, or sorting a database or maybe calculating a large spreadsheet all with a minimal amount of 68000 processor time being taken. As the PC emulator can be pushed out of the way onto its own screen and has its own RAM to operate with, the Amiga can be running at almost full speed and can be used to run other tasks without interferring with operations on the PC emulator. These facilities can all be put to good effect for those people requiring access to an IBM PC clone to run software they already use (or need to use) on a PC. It also allows Amiga owners to use applications that are not presently available for the Amiga and transfer the information stored by these applications to the Amiga for use in other Amiga software. The Amiga 2000 also has 4 IBM standard expansion slots as well as centronics parallel and serial RS232C ports which can be used by the PC emulator for internal and external peripherals such as modems, printers, local area networking cards, hard disk units (which can be accessed by both the Amiga and the PC emulator) and most PC cards.

These capabilities have, of course, been available for the Amiga 1000 using the Sidecar device. This peripheral has the disadvantage that the Amiga 1000 has only one expansion port which Sidecar is installed on to, therefore blocking any further expansion. The Amiga 2000 has 5 expansion slots, two of which can be used for installation of a PC emulator (or 'bridge card' as it is often referred to).

But what of the Amiga 500? Those you who have followed the Amiga since its release may have heard of a piece of software sold mainly in America called the 'Transformer'. It was marketed by Commodore, and is an MS-DOS emulator that allows the Amiga to run PC applications. It converts the Intel 8088 instruction set into similar Motorola 68000 instructions or groups of instructions and, although significantly slows down MS-DOS applications, allows the use of MS-DOS programs on the Amiga. It has the disadvantage that the Amiga operating system cannot be accessed at the same time, but for those requiring the occasional use of MS-DOS, is quite adequate for most purposes and is said to be more compatible than some PC clones! The other drawback of the Transformer was that it only worked on Kickstart version 1.1 which cannot be loaded into the Amiga 500 or Amiga 2000 because Kickstart is a ROM as opposed to a write control store on the Amiga 1000. Help is at hand though, thanks to a public domain program that corrects the necessary problem, and allows the Transformer to operate under Kickstart version 1.2.

I am reliably informed that Commodore UK intend to market the Transformer in the UK in the very near future, which will allow all Amiga owners to try out and use MS-DOS on their machines. It will be necessary to transfer any MS-DOS applications into 3½" format or attach a 5¼" disk drive to your Amiga. I believe that Commodore in America sold the Transformer with a 5¼" disk drive unit, but whether that will occur in the UK is not certain.



Anyone wishing to contact the UK Amiga Users Group concerning MS-DOS and the Amiga, or any other Amiga related topic should do so by writing tous at 66 London Road, Leicester LE2 0QD. Tel: 0533 550993. Our bulletin Board (TABBS) is on-line between 6.00pm and 9.00am on 0533 550893 and we have an area on Compunet (ID AUG). We can also be contacted on BIX (ID UKAUG), Prestel (ID 053355093) and Telecom Gold (ID MIK703).

JUMPDISK

THE US of A's No 1 MONTHLY MAGAZINE ON A DISK

AMIGA COMPUTERS

NEW LOOK NOVEMBER ISSUE NOW AVAILABLE

PROGRAMS

FAST AMIGO
Arcade Game in 'C'

PIE 3D
Generates Pie Charts

VARIABLE LISTER
Dissect Basic

DISK MAN
Reconfigurable Disk Manager

AUTOMATA
Modula 'Life' Style

CALCULATOR
Clickable Math

KNOCKOUT
Dice Game

NOTYPE
The Pointing Writer

QUARTET
Technique

SNEAK PEEK
Revealing the Hidden

RAINBOW
Color Demo

ZOOM LENS
Magnify Screen Areas

OPENWINDOW
Demo with CNOTES

DEPARTMENTAL PROGRAMS
Printall: Send JUMPDISK to Paper
Speakall: Hear on Record Articles
How I Run Instruction

ARTICLES

DISK MAN
Documentation

VARIABLE LISTER
Viscera of Basic

PD DISKS
£3 each, FISH#89 to #102

PIE CHART
Round Out Your Reports

AMIGADOS PRIMER
Built-in Help

CNOTES
C'ing in Depth

AUTOMATA
Alternate Life Style

PEACE
History of a TV Spot

TRANSFORMER'S NEW TRACKS

VAPOR CAPER
Satire

SCULP 3-D
Review with Art

KEYBOARD CADET
Review

EARL WEAVER BASEBALL
Review

S.D.I.
Review

NEWSBREAKS
The Amiga Scene

INSTANT ORDER FORM
Print Me!

HOW TO SUBSCRIBE
THE EDITOR'S TWO CENTS

ALL OF THIS FOR £8.50 inc. VAT

to: **GEORGE THOMPSON SERVICES LTD**
Dippen Lodge, Dippen Brodick, Arran KA27 8RN
Scotland. Tel: (077082) 234

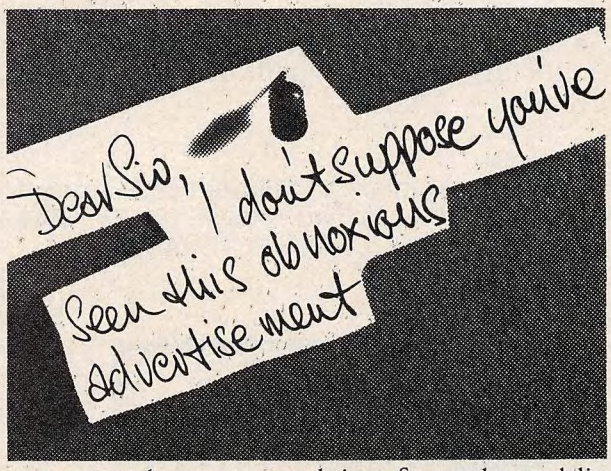
Please send the NOVEMBER ISSUE to me by return

NAME .....

ADDRESS .....

I enclose a cheque or money order for £8.50 ☐

Price includes first class P&P within UK & EUROPE
SAME DAY DESPATCH OF ORDERS. THERE IS A GUARANTEE WITH EVERY ISSUE



We welcome complaints from the public about advertisements in the press, on posters and in the cinema. It helps us keep advertising standards high. But we also monitor a considerable amount of advertising, and take the necessary action ourselves.

If you'd like to know more about our work, and receive a copy of the rules, please write.

The Advertising Standards Authority.

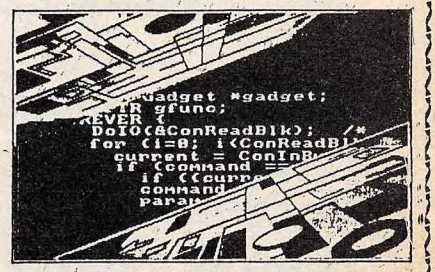
We're here to put it right. ✓

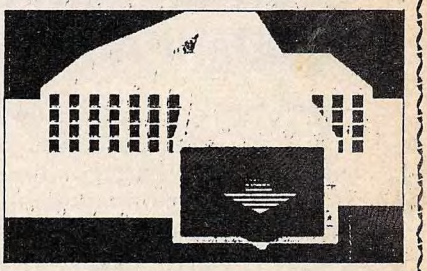
ASA Ltd., Dept. X, Brook House, Torrington Place, London WC1E 7HN.

This space is donated in the interests of high standards of advertising.

The 'Kickstart' Guide to the AMIGA

ARIADNE SOFTWARE LTD





When Commodore sent out the first issue of "Kickstart — the European Technical Journal" it was hailed as the first thing to explain the machine in a way which was comprehensible to a human being, instead of just to another Amiga!

The Commodore Amiga is probably the most advanced wide-market Microcomputer ever produced, both in terms of hardware, and in terms of the system software. The Amiga uses a state-of-the-art message-passing multi-tasking Operating Environment — while this is responsible for a lot of the machine's power, it is also a rich source of confusion to programmers used to comparitively primitive micros.

Aware of this, Commodore commissioned Ariadne to produce the "Kickstart" journal, which was distributed to all European developers. Particularly well received were a series of feature articles, which explained the key concepts of the machine in a way which didn't assume you knew about them already, and which were designed to complement the official documentation as much as possible.

Now with the release of the A500 another group of programmers are eagerly approaching the Amiga. Ariadne have therefore taken the feature articles from Kickstart, revised and updated, them, and added new material appropriate to a wider audience — the result is this book.

Commodore Business and AMIGA User

The 'Kickstart' Guide to the Amiga £12.95

ARIADNE SOFTWARE LTD

Direct Mail Order from Ariadne Software....£12.95 + postage.
(£1.00 UK, £1.65 air mail Europe, surface mail outside Europe)
Phone us if you want air mail.
Special all in price Airmail to USA....£18.75 (approx $30)
Cheques (in £ sterling) payable to Ariadne Software Ltd.
VISA and American Express accepted with telephone orders.

ARIADNE SOFTWARE LTD
273 Kensal Road, London W10 5DB
Tel 01-960 0203

ORDER FORM

Please send me _____ CCI/11

☐ Cheque enclosed ☐ VISA ☐ American Express

(Credit Card Number) _____

Signature _____

Expiry Date _____

Name _____

Address _____

Post Code _____

S.D.I.

A Cinemaware release

SDI is the latest Cinemaware release following on from Defender Of The Crown, can it live up to its predecessor? Andy Moss CCI's resident Adventurer finds out.

There's no doubt in my mind that Americas' "Star Wars" project is flavour of the year in home software entertainment lately, and no wonder. What a glorious storyline for any would be games designer, the big US of A versus the Soviets in a classic encounter of bluff and counter bluff in this nuclear age. First there was Raid Over Moscow, followed by Theatre Europe and then High Frontier, each a different slant on the same theme — nuclear confrontation at the highest level.

Now enter Cinemaware, who are languishing in praise over their mightily successful (and deservedly so) Defender Of The Crown, and the less successful but still popular Sinbad. They need a new action packed storyline to continue their movie interaction style, so what better than to out star all the other Star Wars games by bringing out one of their own?

So SDI was born, and contains all the hallmarks of a blockbuster movie, two star crossed lovers holding the key to the survival of the Human race. He is the young General assigned to the SDI Space Station, she is a beautiful Russian Commander hopelessly caught in the crossfire when ruthless KGB fanatics stage a coup in the Soviet Union, and launch a nuclear attack on America. Can he get her out alive, and together save mankind from destruction.

Given the exciting plot, given the graphical and musical programming abilities of the Cinemaware team as seen in their other releases, and gives the Amigas' proven hardware capabilities we should have another hit on our hands. Unfortunately SDI just doesn't come up to the dizzy heights we expect. Yes there are some very pretty screens, the inside of the space station for instance and the Presidents committee and even the brilliant title screen. But taken overall the game is too bitty, it doesn't allow you to get into it for long enough, in fact you can be killed off in a matter of minutes, not clever when you have just shelled out over twenty pounds. No, it's just too hard too early on. The action sequence after you fly out in the space ship is disappointing, jerky movement and over fussy controls make for a very frustrating time.

For the uninitiated, SDI stands for Strategic Defense Initiative, which is a system that literally shoots enemy missiles out of the sky before they reach the good ol' United States, by firing lasers from numerous satellites placed in orbit. After the news of the Soviet revolt, Russian fighters are soon spotted beating a path for the US satellites to try and knock them out before the Nuclear attack starts. Your mission is to fight the planes in your small space fighter, whilst at the same time dock with damaged satellites in order to administer repairs, and then if any missiles are spotted (you get a two minute warning) you have to race back to the space station and man the SDI controls to aim the lasers at the missiles in a sort of MISSILE COMMAND game. On top of all this, Natalya your Russian girlfriend and Commander of the Russian space station needs to be rescued. There is of course the added problem of your ship running out of fuel . . .

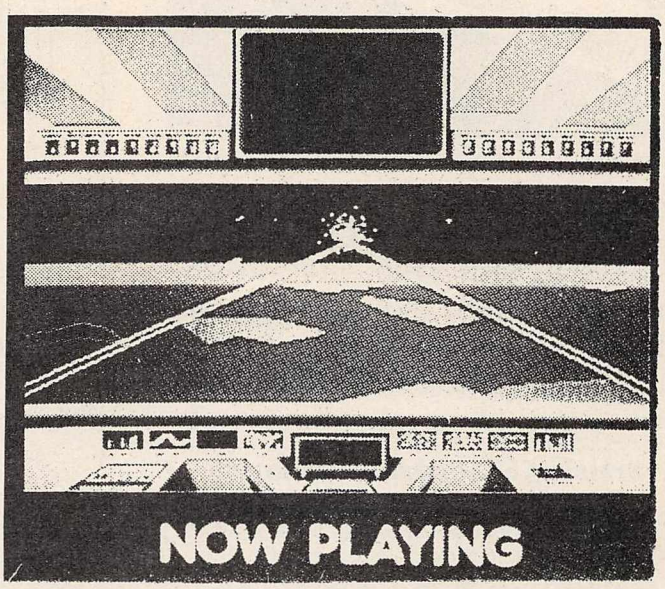
Cinemaware assure me that the 64 version will be a lot more playable than the Amiga, they have realised the problem and changed the program accordingly. 64 owners — wait and see.

The best way to describe SDI is that it is a mixture of Elite, Missile Command, and Prohibition (the Russian Commanders' rescue sequence where baddies jump out from hiding places shooting from the hip) all cobbled together in an attempt to make a good game, which for me they fail to do.

I'm going to wa for King of Chicago.

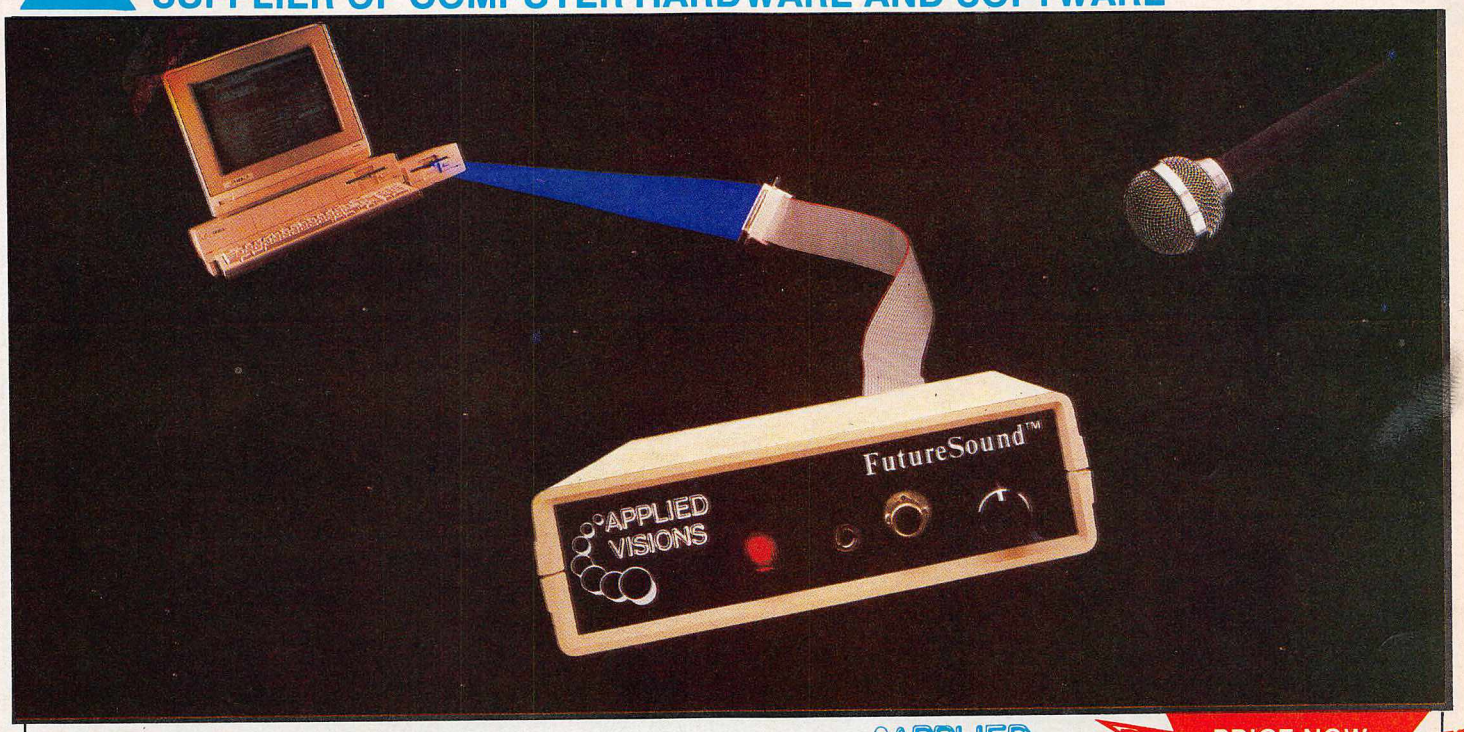
A.M.

Contact: UK Distribution. Mirrorsoft Ltd, Athene House, 66-73 Shoe Lane, London EC4P 4AB.



TRI COMPUTER SOFTWARE Ltd

SUPPLIER OF COMPUTER HARDWARE AND SOFTWARE



APPLIED VISIONS

PRICE NOW REDUCED TO £175 INC FOR ALL AMIGA MODELS

The Future Sound™

COMMODORE MICROCOMPUTERS NOV/DEC 1986
QUOTE
Our favourite sound digitizer is Futuresound from Applied Visions.
It comes complete with microphone, interface, good software and decent documentation. It is a good buy and may be the choice digitizer for programmers who need sound effects in their programs.

DELUXE NEWS MAY 1987
QUOTE
The OPEN THE POD BAY DOORS HAL Line that appears on the Deluxe Video demo disk was actually one of the very first recordings ever made using Futuresound.
Futuresound the premier audio digitizer for the Amiga.

CCI JANUARY 1987
QUOTE
A sound created with Futuresound and saved in IFF could be read into INSTANT MUSIC or DELUXE MUSIC for further manipulation.
Using Futuresound is simply a matter of making certain that everything is properly connected and then loading the software.
If Deluxe Paint made you look, then Futuresound will make you listen.

YOUR AMIGA JULY 1987
QUOTE
Futuresound is a professionally presented product, from the solidly built hardware to the neat manual with large type and clear diagrams. If your hobby stretches to £175, or sound sampling is something you need to achieve on the Amiga, then I am unaware of a better way of performing it.
By Anne Owen

FUTURESOUND is fully IFF compatible (actually three separate formats are supported) your sounds can be used by most Amiga sound applications. Such as Aegis Sonix, Deluxe Music Construction Set, and Deluxe Video Construction Set from Electronic Arts.
With Futuresound and Deluxe Video your video creations can use the voice of Mr Spock, your mother in law, or a disturbed super computer.
Programming support is also provided. Whether you're a "C" programming wiz or a Sunday afternoon Basic hacker, all the routines you need are on the non-copy protected diskette.

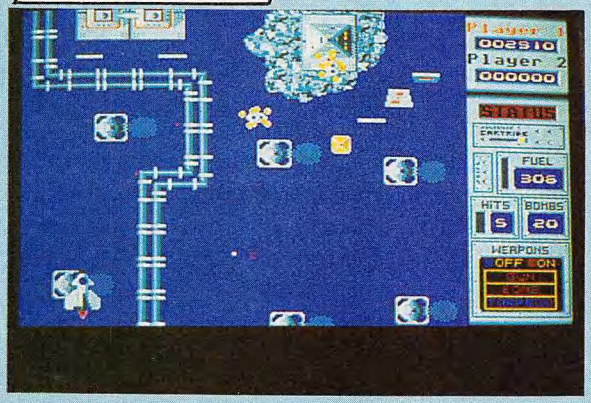
TRI THE FUTURE SOUND FOR YOURSELF IN OUR NEW PREMISES AT 161-169 UXBRIDGE ROAD, EALING, LONDON W13 9AU. TEL: 01-840 6136

APPLIED VISIONS INC., SUITE 2200, ONE KENDALL SQUARE, CAMBRIDGE, MA, USA. 02139 (617) 494-5417

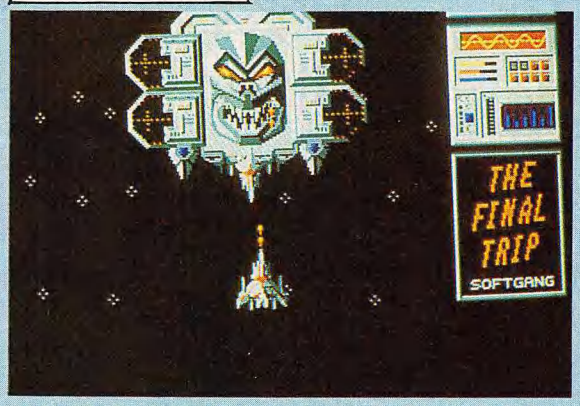
More ANCO Games

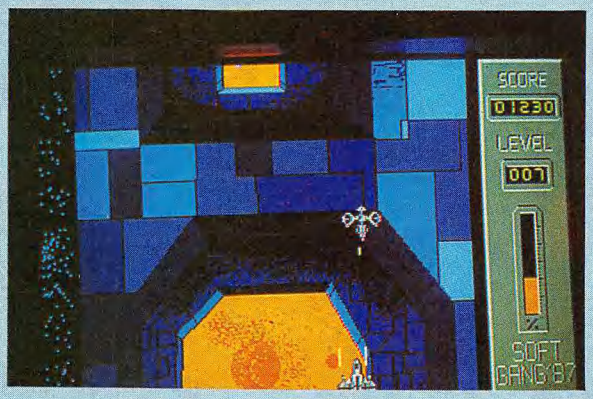
ANCO have announced a new set of Amiga games for near future release

SKY FIGHTER...

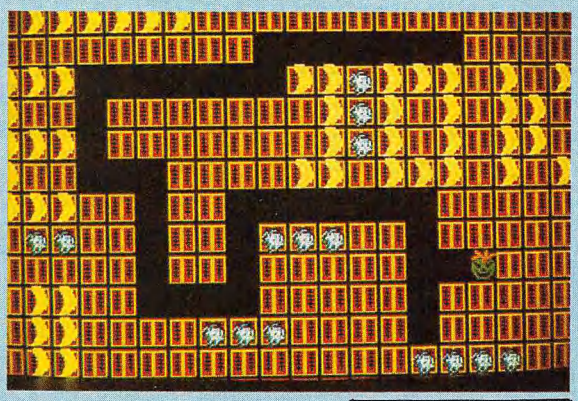


FINAL TRID...





VADER...



DR. FRUIT...

SKY FIGHTER — AMIGA *GOLD RANGE £14.95*

The central power station lies deep inside heavily defended and fortified territory. There are nine sectors to be flown across, intelligence to be gathered, and passed to the command control before the target is in sight. The target lies fifty metres below ground and the only way to destroy it is to drop a bomb accurately into one of the three ventilator shafts. Bombing accuracy is vital throughout as the fuel on your journey can only be replenished by the precision bombing of the fuel dumps.

Joystick or Mouse Control

FINAL TRIP *£9.95 AMIGA*

The FINAL TRIP is a multi screen shoot 'em up. Anticipation of the enemy movements, fast and accurate shooting are of prime importance. As the enemy Battle Ships bear down on you, you have only a short time to probe their weakness and destroy them. There is no escape.

1 or 2 Players Option

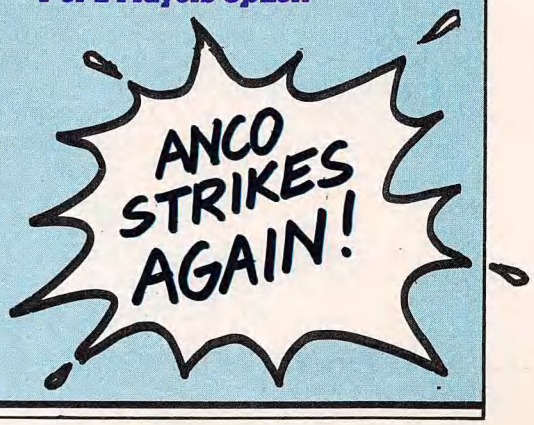
VADER *£9.95 AMIGA*

VADER, the valiant defender of his own planet is on the most difficult mission of his life. The planet is under attack. The enemy attack in numbers and their pattern of attack is unpredictable. Every enemy shot weakens his shields but he must survive by the accuracy of his fire power and the dexterity of his movement.

DR. FRUIT *£9.95 AMIGA*

Andy has an insatiable craving for fruit, so much so that he was nicknamed DR. FRUIT. He tunnels his way into the orchards, moving from tree to tree, to strip them bare of all their fruit. He has to be quick and dig his tunnel with care to avoid the guards.

1 or 2 Players Option



DESK TOP PUBLISHING SOFTWARE FOR THE AMIGA

PageSetter

FROM

HUGH SYMONS
DISTRIBUTION SERVICES

Now, all Amiga owners, past and present, can enter the exciting world of Desk Top Publishing with Pagesetter, the page composition and layout program written especially for **Your Amiga**. With Pagesetter you can mix graphics and text in a variety of styles and fonts to create top quality reports, forms, newsletters, flyers and much, much more.

OUTSTANDING FEATURES INCLUDE

- Full 'What You See is What You Get' Facility.
- Intuitive user interface combines ease of operation with complete flexibility of page design.
- Built-in text and Graphic editors permit on the spot text or graphics.
- Works equally well with other text and graphics (e.g. Scribble, Textcraft, etc.) and Graphics programs such as (Deluxe Paint, Aegis Images, etc.).
- Supports multiple page documents with variable page sizes and formats.
- Prints text in a variety of fonts and styles, i.e. Bold, Outline, Shadow, etc., and justifies.
- Enhances text with variety of borders and shading.
- Incorporates an extensive library of drawings and illustrations.
- Use on any printer in Amiga preference.

HUGH SYMONS
DISTRIBUTION SERVICES
223-227 Alder Road, Poole, Dorset BH12 4AP

Tel. 0202 745744 for Local Stockists

MPC SOFTWARE

ADVENTURES

Alien Fires	£30
Deja Vu	£24
Fairy Tale Adventure	£40
Guild of Thieves	£19
Hitchhikers Guide	£22
Knight Orc	£17
Leather Goddesses	£23
Other Infocom	Phone
Tass Times in Tone Town	£16
The Pawn	£19

BUSINESS SOFTWARE

Aegis Drew	£80
Aegis Impact	£60
BBS PC	£90
City Desk	£110
Diga (Comma)	£60
Dynamic CAD	£300
Financial Cookbook	£20
Macro Modem	£45
Page Setter	£100
Professional Page	Phone
Publisher 1000	£140
X-CAD	Phone

SOUND & GRAPHICS

Aegis Animator & Images	£95
Aegis Images	£35
Aegis Sonix	£52
Deluxe Paint II	£60
Deluxe Print	£24
Deluxe Music	£69
Future Sound Sampler	£165
Grabbit	£29
Instant Music	£24
Music Studio	£27
Perfect Sound Sampler	£70
Skulp 3D	£80
Soundscape MIDI Interface	£50
Soundscape Pro MIDI Studio	£145
Soundscape Sound Sampler	£90
TV + Text	£90
Videoscape 3D	£125

ARCADE GAMES

Arena & Brataccus	£19
Artic Fox	£19
Barbarian	£18
Deep Space	£18
Fire Power	£19
Goldrunner	£21
Impact	£12
Karate Kid II	£20
Marble Madness	£19
Mindwalker	£40
Sky Fox	£14
Starglider	£19
TASAR	Phone
Terrorpods	£17
Wizball	Phone
World Games	£20

LEISURE SOFTWARE

Archon + Archon 2	£19
Balance of Power	£22
Bards Tale	£24
Bards Tale 2	£24
Brian Clough Football Fortune	£20
Chessmaster 2000	£24
Defender of the Crown	£22
Karl Weaver Baseball	£24
Flight Sim 2	£38
Flight Sim 2 Scenary Disc 7	£21
Hollywood Strip Poker	£16
Kampfgruppe	£21
Leaderboard	£20
Phantasie 3	£19
Silent Service	£19
Sinbad	£23
Test Drive	£24

DATA BASES

Acquisition	Phone
DB Man (DBase III clone)	£110
Omega File	£70
Softwood File	£90
Superbase Personal	£85
Superbase Professonal	Phone

WORD PROCESSING

Dynamic Word	Phone
Gold Spell	£23
Pro Write	£100
Word Perfect	£250
Talker	£50
Visa Write	Phone
Nancy (spell checker)	£20
Scribble II	£90

UTILITIES

Aztec C	Phone
CLImate	£28
K/Seka	£60
Lattice C3.10	£160
Marauder 2 (Copier)	£30
Metacomco Assembler	£52
Metacomco Pascal	£60
Metacomco Shell	£40
Matacomco Toolkit	£30
Mirror Hacker Pack	£36
Medula 2 (Standard Version)	£90
Zing	£60

BOOKS

Amiga DOS Manual	£23
Hardware Reference Manual	£23
Intuition Reference Manual	£23
ROM Kernal Executive	£23
ROM Kernal Libraries & Dev.	£33
The Kickstart Guide	£12
The Amiga System An Intro	£9
The Amiga Handbook	£16
Amiga Programmers Guide	£14
Inside Amiga Graphics	£16
Inside the Amiga with C	£19
Prog. Guide to the Amiga	£24

phone for other titles

HARDWARE

AMIGA A2000	PHONE
AMIGA A500	£499
AMIGA 1081 COLOUR MONITOR	PHONE
CUMANA 3.5" DISC DRIVE	£130
STARBOARD OMB-2MB	PHONE
MEGABOARD II	PHONE
GENLOCK 1000 (PAL)	£430
GENLOCK 500 (PAL)	£270
DIGI VIEW 2.0	£170
SOUNDSCAPE MIDI INTERFACE	£50
EASYL GRAPHICS TABLET	£350
EASYL 500 GRAPHICS TABLET	£300
PC BRIDGE BOARD	£500

NEW PRODUCTS

Gallieo (Astronomy)	£55
Ferrari Formula 1	PHONE
Living Daylights	£20
Impact	£12
Dick Special	PHONE
Elite	PHONE
Professional Page	PHONE
Skulpt 3D	£80
Forms in Flight	£70
Butcher	£23
Maxi Plan Plus	£140
Shakespeare	£200
Test Drive	£24
Caligrapher	£55

OFFERS

Arena & Brataccus	£20
Terrorpode	£17
Barbarian	£17
Kings Quasi III	£15
Basketball	£15
DEEP SPACE	£18
Karate Kid II	£18
Wishbringer	£15
Suspended	£18
Temple of Apshai	£12
Talker	£45
Mirror	£32
Nancy	£20
Aegis Images	£36

10 3.5" DSDD Discs only £13

STARBOARD II

We think The Starboard is by far the best memory upgrade for the A1000 allowing much more than a simple memory upgrade.

The Upper deck £120

SCSI Hard Disc Controller (Can Not be Used with Multi Function Module)

The Multi Function Module £90

This optional board gives you the ability to add a 68881 math co processor. Speed math functions up to 40 times, also on board in a battery backed clock and a RAM cache to save the data in RAM from being wiped out in the event of a crash.

A2000 Adaptor £40
A900 Version Soon

PRINTERS

CITIZEN 120SD	£200
CITIZEN LSP10	£220
CITIZEN LSP100	£350
PANASONIC	£280
STAR NL-10	£250
PRECISION PRINTER	£400
XEROX 4020 Colour	£1350

A2000 512K UPGRADE

Upgrade the A2000 to 1.5 MB for only £70.00

Phone for more details

A2000 INTERNAL DRIVE KIT

Get an extra A2000 internal drive for £130 (almost 50% off the normal price).

Phone for more details

A2000 68020 Board

Discover what FAST really means!

Phone for details

MPC SOFTWARE
72 JULIAN ROAD
WESTBRIDGFORD
NOTTINGHAM NG2 5AN
PERSONAL CALLERS PLEASE TELEPHONE
TEL 820106 — 455114

AMIGA PRODUCTS

Taking A Look At The Reviews

With many new Amigas being bought around the world, we thought AMIGA USER should take a look back at some of the many interesting products we have reviewed and give new Amiga owners the chance to see what they missed and may want to buy. We're quoting from what appeared in those earlier issues of the magazine, since then prices may have changed.

AEGIS ANIMATOR

August '86 saw the release of an essential buy for all those who have marvelled at the amazing Amiga graphics demos and wished they could create their own. The Aegis Animator granted that wish . . .

"The Aegis Animator allows the user to define objects in 32 colours from the master palette of 4096 and then change the object's size, shape or colour. The object can be dragged, rotated or a path plotted for it anywhere on the screen. The animator operates by using the concept of 'tweening'. This means only a few frames must be drawn, and the computer works out the missing frames in between (hence the term 'tweening') . . .

" Animator is the type of software that cries out for the user to start doing something. With Animator in the hands of a relative novice, presentation graphics can take on a new dimension."

SIDECAR

If after buying your Amiga, the mention of splashing out on an IBM PC made your wallet run for cover, go and fetch it from behind the sofa and read it this article on Commodore's Sidecar . . .

"What is a Sidecar? It is possibly the most important device that the Amiga could have to turn it into a true business machine. Sidecar is the hardware devices that allows the Amiga to complete emulation of the IBM PC. The device itself is a hardware add-on which is attached to the expansion port of the side of the Amiga, leaving existing ports at the rear of the Amiga unobscured. It is not large taking up about 25cm sq. with a 5.25 inch drive at the front. The Amiga and Sidecar combine to form the leader in low cost, innovative business computers."

MINDWALKER

The games scene on the Amiga is just beginning to pick up. A year ago, games such as the Cinemaware series, or those from Psygnosis were rare, but one stood out like a sore thumb. This is what our reviewer had to say about it . . .

"When I got home, I promptly sat down and booted up Mindwalker, and played it through to about 5 am, when I eventually, I say with not a little pride, finished it. Not many games can hold my attention for so long, and neither do they have the addictive power that Mindwalker possesses. The name very aptly describes the game. Stuck in a mental hospital, you are trying to regain your sanity through your dreams; walking in the realms of your mind in its deluded insanity; trying to link up paths of coherent thought; a situation not unlike working on a magazine!

"This truly is one wierd game. It is incredibly hard to stop playing, because although initially it seems simple, it is in fact highly complex and requies a lot of strategy. It is really state-of-the-art in computer games."

AEGIS IMAGES

What better way to take advantage of the Amiga's excellent graphics capabilities than with an art package. One that stands up well a year after its launch is Aegis Images. This is how it was received in August of '86 . . .

"Aegis Images is a creative paint/draw package which starts to reveal the true graphics strength of the Amiga. I have spent a great deal of time exploring and using Images and my efforts have been both creatively rewarding as well as pleasurable in the extreme.

"Images has a wealth of helpful features, apart from the usual ones you would expect to find. To start with there is a selection of 16 brushes to choose from which can be altered by the user. Additional features such as areas of the screen being defined as brushes, polygons, shading, smearing, colour cycling, magnify and more. Aegis Images is a piece of software that is not only functional and fast but provides an excellent vehicle for user creativity."

TEXTCRAFT AND SCRIBBLE

Two word processors came on the market in August. Textcraft and Scribble were put through their paces by Bill Donald. How did they shape up? Read on . . .

"Textcraft, a product from the US is marketed in the K by Commodore. The version reviewed, 1.0, was supplied on a non-protected disk along with an extensive manual. Textcraft makes extensive use Intuition, the graphic overlay system of the Amiga operating centre. When using the cut and paste functions, the pointer sensibly changes to scissors or a paint brush accordingly.

AMIGA PRODUCTS

Trivial you may think, but it comes in handy for beginners. Functions available are adequate as opposed comprehensive, but has points such as fast re-formatting of text, a number of fonts, and fast cut and paste in its favour.

"Scribble comes with a good manual, more concerned with this particular program than word processing in general. Back-ups are no problem as it comes on a non-protected disk. A full range of formats are available for headers, footers, offsets, soft-spaces, etc., all paraphernalia of word processing. I also liked the facility which gave the option to save documents to disk in ASCII format. This is of particular value in text portability across different applications such as other word processors and other such systems.

"Summarising both products, I would say that neither has reached perfection, but both would be adequate for most users. Which one to choose, is up to personal taste."

DELUXE VIDEO

If you've ever wanted to direct your own video, be it a pop video, or just an animation, Deluxe Video could come in very handy. Hugh Riley directed his own animation as he took a look at Deluxe Video . . .

"This is the big one from Electronic Arts — the package that puts together the full potential of Deluxe Paint, Print and Music. It doesn't generate sound or complex images itself, but will accept any IFF compatible sound and graphics files and combine them as a video. Virtually everything in the program is WIMP driven with extensive use of windowing to request information or to move objects about. Deluxe Video is full of effects that can be used in combination with each other, and is extremely easy to use once you have ploughed through the manual.

"I don't think any of the moving graphics utilities are adequate for business use in themselves yet, but it's certainly fun to create with."

INSTANT MUSIC

How can you take advantage of your Amiga's excellent sound capabilities if you've no musical talent? Electronic Arts' Instant Music is designed with just this situation in mind . . . It's now being re-released in Europe. Now price £24.95.

"Instant Music provides the purchaser with a musical environment in which to experiment. I suppose the keyword to this software is *improvisation* since it allows the user limited compositional facilities together with direct real-time interaction with the sound using an input device, in this instance, the mouse. Instant Music uses conventional music techniques such as harmonic voicing and diatonic pitching. The former will ensure that whatever the user enters will play back pitched at the correct note within the context of the current melody. Instant Music lives up to its name. It is not designed as a deeply serious tool for musical development. Nevertheless, at £29.95, Instant Music is worth purchasing to give users some *feel* for the Amiga sound, a very big field indeed.

MARBLE MADNESS

Being used to the usual standard of coin-op conversions on 8-bit machines, when Marble Madness came along on the Amiga, we found it to be almost identical to the original. In fact it took a skilled eye to distinguish it from the original . . .

"When Marble Madness arrived in the arcades, its graphics, sound, and originality drew players towards it like a magnet. Could this amazing game be accurately reproduced on the Amiga? The answer is definitely yes! The game involves you guiding a rolling marble over six courses of ramps, voids, killer balls, a wave machine, acid pools, green gulpoids, and most importantly, gravity and inertia. The mouse is a well suited control method, as your marble can roll in any direction, with its speed matching that of the mouse. This is the most accurate coin-op conversion I've ever seen. Don't miss it!"

MEAN 18

There's no shortage of golf simulations now, due to the recent boom in golf computer games. One such game, Mean 18, was received with great enthusiasm in February . . .

"Mean 18 . . . the very sound of the name expresses it. This is a real mean game, and in my view, the best sports simulation on the Amiga or any other 16 bit machine. As is usual in these golf sims, you can play up to four players. You also have four courses, St Andrews, Augusta, Pebble Beach and a fictitious course called Bush Hill. It has a tremendous variety of options that make it virtually inexhaustible in the possibilities you could have to take an untried challenge each time. Amongst others, you can alter the courses, either slightly modifying it, perhaps tweaking the difficulty, or totally re-arranging it.

SILENT SERVICE

This submarine simulation appeared a while ago on the '64 and was well received. The Amiga version was nothing to be sniffed at . . .

"The game starts with you ranked as Ensign — on the easiest level. You can, if you have genius, the luck of the devil, the mind of Einstein and about a million years, progress to the ninth level of Captain, and even above. Silent Service lets you incorporate all sorts of factors to complicate your life and challenge your skill.

"The graphics are not very different from the '64 but if you do not have the '64 version then you are going to be delighted with the opportunity to use the mouse and to become fascinated for hours on end by the Amiga screens that soon assume heightened reality as Silent Service becomes a part of your life."

TRUE BASIC

Need a decent BASIC? True BASIC could be just what you're looking for . . .

"The environment provided by True BASIC employs Intuition in the manner as Amiga BASIC. However, the facilities offered to both the user and the programmer are vastly superior — for example the user has merely to click the mouse within the program window to stop the execution, whereas in Amiga BASIC halting a program means a search for the menu bar, assuming the mouse pointer is visible. The menu structure for True BASIC covers: Project, Edit, Search, Format, Run and Windows.

"Compared to Amiga BASIC, the programmer will find this system much better. The *search/replace* option is case-sensitive, automatic indenting an capitalisation of key words, an undo function, selective breakpoints, line numbering and deletion are just a few of the options that make programming in True BASIC a joyful experience. If you are looking for a fast, powerful, portable BASIC that provides a structured environment then True BASIC is clearly the one to buy."

DIGIVIEW

No personal computer has been more suited to digitising pictures than the Amiga. With its high resolution, and enormous palette of colours. Someone had to make a digitiser to do the computer justice . . .

"Digiview is an unobtrusive white box that plugs into the parallel port of the Amiga. Plug a video camera into this and you're ready to go. The system works on a high-res mode of 16 grey level of 640 x 400. It has image processing built in and automatically picks the most suitable but can be manually overridden if you wish. Lo-res colour is either HAM (Hol and Modify) which allows 4096 colours on screen simultaneously or picks 32 colours which it chooses out of 2.2 million colours. It works out the best colours and picture and them smooths out the graininess. We were very impressed by what we saw, and found it lived up to all claims made for it."

ONE-ON-ONE

Electronic Arts were one of the few companies to back the Amiga in its younger days, and One-On-One was one of the first sports simulations. This is how the game fared . . .

"One-On-One is a basketball simulation, featuring two of America's most talented basketball players, Julius Irving and Larry Bird represented on screen. You can play either of these, and the other player can be controlled by the Amiga or a friend. Larry and Julius have different strengths and weaknesses, and bearing their styles in mind during play can work to your advantage, although remembering to play in the appropriate style can be tricky.

AMIGA PRODUCTS

"The graphics aren't stunning, but the sound effects are. You can even hear a hotdog seller in the background! The game has a nice feel to it which makes it enjoyable to play."

PAL GENLOCK 8600

Genlock 8600 is a device that can display the Amiga's graphics over a video picture, not unlike the 'mix' feature on teletext TVs. Bill Donald gave it a test run in February of this year . . .

"The package consists of the Genlock unit, three connecting cables, a disk containing several items of software, and a 20 page manual. Connection of the unit is simply a matter of connecting the three cables — one replaces the existing monitor lead which now runs between the Genlock unit and the monitor, another fits to the A1000 parallel port and runs between the Genlock unit an the A1000 video output port.

"There was only one area where I was unhappy — the loss of the parallel port, although this could be overcome by the use of a piggyback IDC connector on the cable from the Genlock. In short, the 8600 PAL Genlock has produced the goods in this area irrespective of program skills."

EASYL

Mouse input is fine for art programs, but wouldn't it be nice if you could simply draw the picture as you wold normally, and have it appear on the screen. Easyl lets you do this for a mere £399.95 . . .

"For the experienced computer artist or the novice, Easyl is a time saving and clever device, and very easy to use. The Easyl drawing pad is just over A4 in size, it has a durable surface (pad) over an underlying grid which is attached to a lightweight wooden base. A small light protrudes from the interface. This is very important when using the drawing pad, because it tells you when enough pressure is being applied, in order for your drawing to be translated to the screen.

"Easyl's software is probably not first rate when compared to other distinguished graphics packages. However, the drawing pad is great and I see it as being the main feature. When used with other graphics packages it is even better."

SINBAD AND THE THRONE OF THE FALCON

Mindscape sail the seven seas in one of their earlier Cinemaware games. Fancy joining them? . . .

"Sinbad might indeed have been written on a less complex or advanced computer. Much of the 'action' takes place with relatively still graphics, and the techniques used — answering questions from a multiple choice are as old as adventure games on any computer. However, it's clear that the creators of Sinbad have set out to build something else. They have, I believe, succeeded in writing the first graphic adventure for the Amiga. As an Amiga product, Sinbad is not going to dazzle like a super-nova, but it does offer some tremendous fun."

THE FAERY TALE ADVENTURE

This enormous arcade adventure turned up in July, and was responsible for causing work in the office to grind to a halt as fights broke out over who would play this amazing game . . .

"Taking the part of the three brothers, it's up to you, the player, to recover the talisman and restore peace to the land once more. Viewed from above and at a slight angle, you begin as Julian, the eldest brother in the village of Tambry. The bottom third of the screen shows a scroll narrating the events as they happen.

"Faery Tale is an enormous adventure which will take a long time to complete and makes excellent use of the Amiga's graphics, sound and memory. We do not believe that there will be anyone who plays computer games who could possibly not love Faery Tale. It's a great game."

BARBARIAN

The graphics talents of Psygnosis were once again in evidence in their hack 'em up Barbarian. Great graphics, what about the game? . . .

"With their latest game, Barbarian, Psygnosis have produced some of the best graphics ever seen on a computer game. Take the part of Hegor, the monster mangling Barbarian! Venture into the underground world of Durgan, and Destroy the Necron Lair to obtain the kingdom's crown! On your quest you will encounter many gruesome death-dealing creatures ranging from nasty to deadly.

"There is no doubt that a lot has gone into the design of Barbarian in every way, but Psygnosis still have some tricks to learn on the programming side. Not wanting to take too much away from the game, it must be said that Barbarian is a highly enjoyable game, with loads of original touches. Check it out, you will find it has to be one of the best Amiga games you can buy."

BALANCE OF POWER

If you were in Ronald Reagan's shoes, how would you handle world politics? Find out with Balance of Power . . .

"Balance of Power only asks for something simple like putting you in the hottest of life and death decision making seats with an armageddon-style crisis to stave off. There is no shoot 'em up action, your main task is to make the choices and to use the proper influences to keep the world safe for your kind of political system — and we all know what that means don't we? As someone once said "Democracy? That means everyone votes for what I want!"

"Balance of Power could be just the job for helping you look at life a touch more coolly, and maybe even more wisely."

BUREACRACY

Have you ever suffered at the hands of bureaucrats? Anthony Mael plays this spoof adventure game, written by Douglas Adams, author of Hitch Hikers Guide to the Galaxy . . .

"In Bureaucracy, you find yourself in a horrifyingly real mess. You have just landed a great new job and moved into a spiffy new house in a nice little town. You're even being sent to Paris this very afternoon for a combination of seminar and vacation. What could possibly go wrong? The answer is of course, everything. Infocom claims it's like waking up inside a story, taking you into the centre of a world jampacked with surprising twists and unique characters.

"Bureaucracy is stunningly well put together. It is highly enjoyable and will give you uncounted hours of delight."

AEGIS IMPACT

Aegis Animator, Aegis Images, what next? Aegis Impact, that's what . . .

"Aegis Impact is a presentation graphics package that combines elements of previous Aegis products, namely Aegis Images and Aegis Animator to provide highly effective graphics. The basic premise of Impact is that the numeric data is entered and the data displayed in either bar charts, pie charts, line and area charts, or star charts. Both pie and bar charts can be displayed as either two dimensional or three dimensional images. The graphs can be customised by user defined icons and vertical or horizontal text characters.

"Ask to see a demonstration of Impact and see why it is the leading software in business presentation graphics."

TRIVIA TROVE

Everyone likes a bit of trivia, don't they? Trivia Trove quizzes you on your general knowledge of the unimportant . . .

"This is definitely the one for all of us trivia fans, a thoroughly addictive game. We are given the choice of Trivia Trove or Trivia Trove+ which is the same game, but with the answers supplied, should you get them wrong. Both versions are written in Amiga BASIC.

"One really nice feature of this game is that it does have a section called Trivial Filer which allows you to create your own questions for use within the game. This can be great fun on a Saturday night with a few friends and a liberal supply of amber nectar. On a more serious note it can also be very useful as an educational aid."

Compiled by Tony Horgan

ZING! KEYS

Len Keighthley takes a look at the upgraded version of the popular Zing! package.

ZING! Keys is the latest product from Meridian Software Inc. for the Amiga. Like its predecessor, ZING, it helps the Amiga user to communicate with the machine. The function of this utility is to save time when commands, in any of the available forms ie. key depression or mouse movement, are to be input. This will be particularly helpful for touch typists or those who do not like having to remove the hands from the keyboard to carry out mouse functions.

The method used is to create what Meridian call Macro or Hot Keys. A Macro Key is defined as one that will expand to one or more automatic key depressions. The inclusion of mouse or window operations are handled by special macros called 'Intuition Macros'. A Hot Key is a key that will start up another task. In both cases the user is saved the necessity of inputting long sets of key depressions, if not commands. Both types of key are selected by use of a qualifier key such as the Amiga or Alt keys.

The ZING! Keys disk is a Version 1.2 Workbench disk and the program itself is loaded as part of the startup procedure. To accommodate the ZING Keys software, some of the standard Amiga features have been removed, such as the Clock and Calculator. As part of the load a default arrangement of Macro and Hot keys is created, but these can be overwritten or moved to other keys if required.

Macro Keys

There are two types of macro, System and User. System Macros enable the use of the Special Key Functions to be included in macros, while using ZING! Keys itself. This then avoids using the Editor or Help Menu to use these functions in User Macros. User Macros can be made up of any number of System Macros, Hot Keys, Input Macros and other User Macros. User Macros can be nested up to 16 levels.

A typical User Macro will consist of commands that, when the User Macro Key is pressed, will be input to the machine as though the user had typed them or used the mouse. Mouse movement is handled by storing the position of the mouse printer at which it should be positioned as part of the function actioned by the Macro Key.

Hot Keys

These are simple to use and set up. A Hot Key when pressed will start up an application program as a new task. As part of the definition of a Hot Key, the user may supply details of what parameters need to be passed to the application program, before starting.

ZING! Keys also provides a History feature which allows the recall, edit and output of old commands. Thus providing the user with a sophisticated repeat command facility.

ZING! Keys is a powerful package which includes a Key Editor and Help Menu which makes it simple to create or amend Macro or Hot Keys. As part of the package a 48 page manual is supplied. This includes a Tutorial which is advisable to use. ZING! Keys is certainly not for the amateur or games player but once used and mastered eases the use of all aspects of the Amiga command language.

L.K.

★ Program Submission Procedure ★

DO NOT submit any programme or routine that you do not either own or have proper authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.
Do not forget to to make it clear exactly which computer/s your programme or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

Number all pages.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Never use staples. Use paperclips if necessary.
If you are saving your programme to tape then save it AT LEAST twice on each side.
When you save a programme on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the programme. Label tape or disk with your name and the name or title of the programme.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programmes have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your programme to be returned.

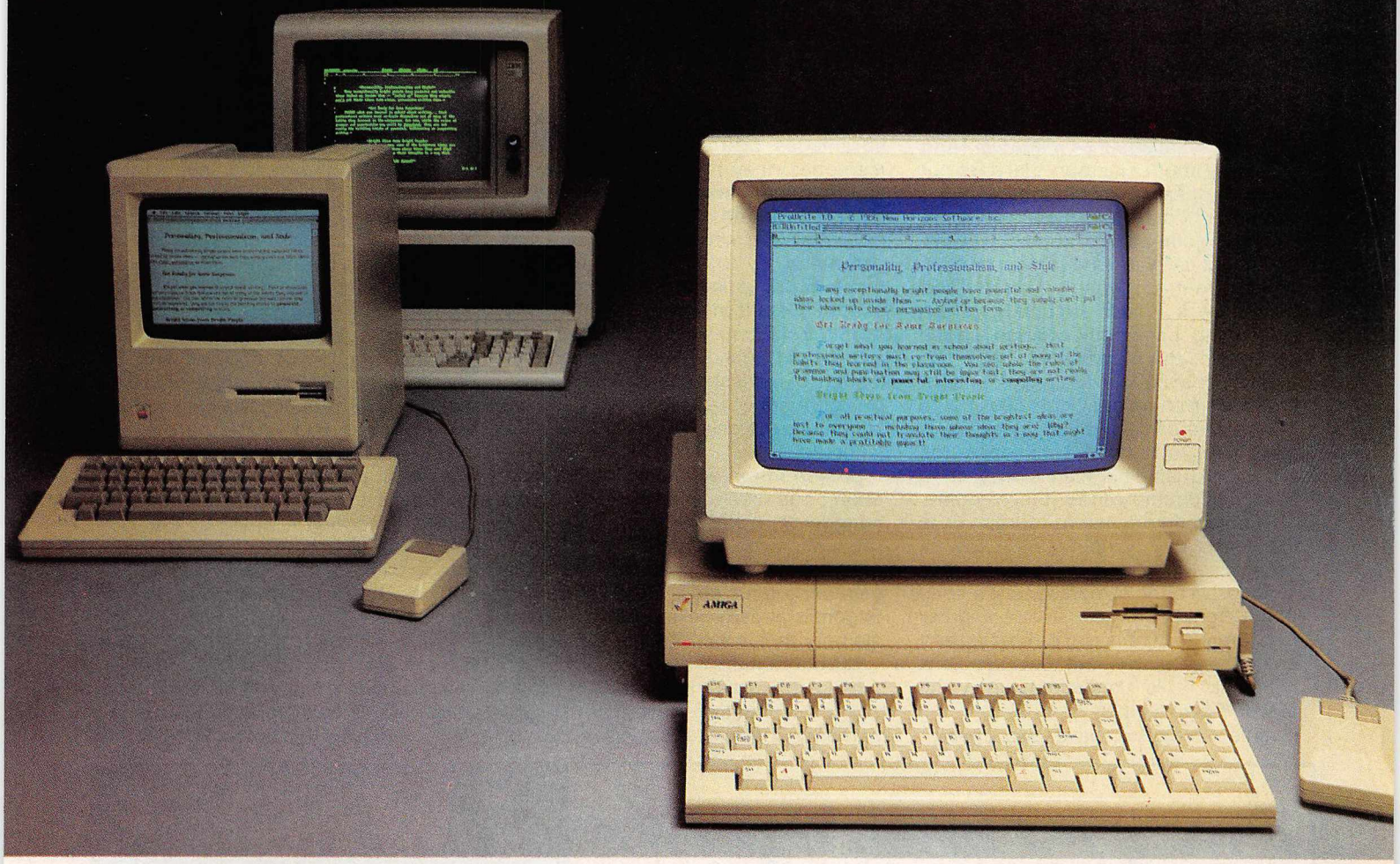
★ Programming tips ★
If you can, use CHR$(x) type commands instead of those hard to read graphic symbols.
If necessary renumber your programme on completion as many readers use auto number utilities to ease typing in.

Try to keep instructions within the programme itself as a sensible level. You can expand on them within the accompanying text if necessary.

TEST your programmes before submitting them or even better get a friend to test them for you.

If a programme contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your programme contains any more than five lines of data.

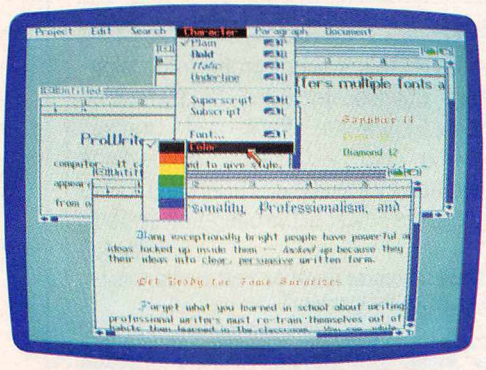
Now Look At Word Processing In A Whole New Light.

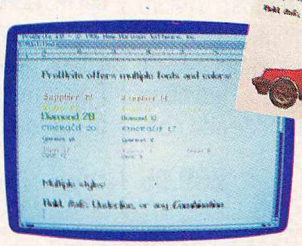


ProWrite.™ All Others Pale By Comparison.

You chose Amiga® because you wanted something more. Now you choose your software for the same reason. Which makes choosing ProWrite word processing a very bright idea.

The Full Spectrum of Capabilities. ProWrite lets you select more than just a typeface: You get proportionally spaced character fonts. Brilliant color. Unsurpassed graphics capabilities. And no surprises. Because what you see on the screen with ProWrite is a letter-perfect picture of what you'll see printed on the page— from header to footer, right down to the last pixel.





Creative Control: A Brilliant Stroke. With six pull-down menus, just a click of the mouse or a few keystrokes is all you need to create, delete, copy, alter, move and otherwise manipulate text. Multiple selections create a limitless choice of character fonts, colors, sizes and styles. Customize everything from a daily diary to an annual report, including color graphics. And with headers and footers always clearly displayed, ProWrite makes even advanced formatting as easy as dragging a mouse.

Ease of Use: Another Bright Idea. ProWrite delivers more of what you bought Amiga for: Professional output. Multi-tasking power. A "creative edge." You can open up to eight windows at once—and perform a variety of editing tasks between them. With ProWrite, you'll always know exactly what you're doing, because you see it done—in living color—right before your eyes.

See for yourself what you get with ProWrite. Then, just for fun, take a look at the others—and watch them pale by comparison.

New Horizons
SOFTWARE

First In Personal Productivity And Creativity.

New Horizons Software, Inc. PO Box 43167, Austin, TX 78745 (512) 329-6215

ProWrite is a trademark of New Horizons Software, Inc. Amiga is a registered trademark of Commodore-Amiga, Inc.

64 MEGABIT BUBBLE

Anthony Mael takes a look at a French company's achievement in blowing an interesting electronic bubble.

64K? What about 64 *megabits?* And what about a memory that does not disappear when you switch off the computer? That would mean you could have a tiny computer of huge power that you could carry around in your pocket. The key to this is 'bubble memory' and Sagem — a French company — are developing a memory storage device based on this technology that will contain at least four times the amount that a conventional silicon chip could hold in the same size. 64 megabits is equivalent to about 1.3 million words and will fit, using bubble memory, on to a piece of circuitry about 1 inch square.

Bubble memories store information in the form of tiny cylinders on a magnetic base. The presence or absence of a cylinder, or bubble, represents the 1 or 0 of the digital code used in all computer memories. A bubble can be created and erased electrically, but because it is magnetic, it is unaffected when the power is switched off.

Bubble memories have two main advantages over conventional silicon memories: they retain the information stored in them even when the power is switched off and they are tougher and more resistant to rough treatment. They can stand up to vibrations and wide temperature variations so they can be used in difficult environments such as in robots in factories. Hitachi, one of the four world manufacturers of bubble memories ran tests that showed that in 1 billion hours of operation there will be an average of only 15 bubble memory failures.

Sagem's new technique, ion implantation, has been used by the semiconductor industry for some time in the production of standard silicon integrated circuits. Its application to bubble memory production is more recent, and Sagem is already selling a one megabit memory that is made with the process.

Bubble memories have proved harder to make than was anticipated, and their high price relative to semiconductor memories has meant their potential market has been smaller than predicted.

"The cost-per-bit will be lower, and for the market to grow, bubble memories must have a major packing density advantage over other memories, which is why the 16 and 64 megabit devices are so important," says Guy Spriet, of Sagem.

In the ion implantation techniques developed by Sagem, as in silicon chip manufacture, the base on which the bubble memory is created is bombarded by a stream of ions (charged atoms). This changes the pattern of the circuit elements and the orientation of the magnetic field.

The result is a four-fold increase in the density with which bubbles can be packed on to the chip, compared with conventional production. This turns a one megabit memory into a four megabit device, at little extra cost.

The cost per bit of bubble memories is usually higher than that of silicon memories — about 5p per 1000 bits of bubble memory, compared with about 0.5p for the same amount in silicon. But the high density bubble memory will reduce costs per bit because although the number of bits will increase the size of the chip itself will not. Sagem is now talking to Hitachi about jointly developing a 16 megabit device, followed by a 64 megabit version.

Programming the AMIGA?

THE LANGUAGES AND TOOLS YOU NEED ARE HERE - FROM METACOMCO, THE AUTHORS OF AMIGADOS

NEW MACRO ASSEMBLER

Professional macro assembler, this is THE assembler package for the Amiga Standard 68000 mnemonics, macro expansions over 160 explicit error messages, fully formatted listings, large range of directives, absolute, position independent or relocatable code and conditional assembly.

£69.95

AMIGA SHELL

An enhanced command line interpreter to ease and speed up your development cycle. Contains Unix like features such as Command Line History, Command Line Editor, Aliases, Variables and Push and Pop directories. Also full documentation of Amiga CLI commands is provided.

£49.95

"If you do any programming you must buy Shell" .EXE - Jan 1987

CAMBRIDGE LISP

An integrated LISP interpreter and compiler providing a complete Artificial Intelligence development environment with rational arithmetic, trig functions, floating point arithmetic, vectors, integers of any size and much more.

£149.95

"One of the most advanced LISP systems I have ever seen" Amiga World - Feb. 1986

NEW VERSION LATTICE C v.3.10

Enhanced C compiler, assembler and linker, now with more library functions and includes text management utilities.

£189.95

A feature packed Developer's version is also available which includes the above compiler, Make utility, screen editor and symbolic debugger. £299.95

MCC PASCAL

A fast and efficient ISO validated Pascal compiler generating native code, comprehensive error handling, 32 bit IEEE format floating point and full 32 bit integers.

£89.95

"The definitive Pascal compiler for the Amiga" Amiga User - Dec. 1986

AMIGA TOOLKIT

An invaluable suite of program development utilities. Includes Disassembler, Pipes, Librarian, Pack and Unpack, Browse and AUX CLI. A package designed by the authors of AmigaDOS to extend the power of the operating system.

£39.95

"Likely to become one of the most used programming aids for the machine" Your Commodore - Feb 1987

METACOMCO

26 Portland Square, Bristol BS2 8RZ, UK.
Telex: 444874 METACO G Fax: (0272) 428618
© METACOMCO 1987
MAIL ORDER HOTLINE (0272) 428781

DIGI VIEW

DELIVERS ULTIMATE GRAPHICS POWER

Bring the world into your Amiga with Digi-View, the 4096 color video digitizer. In seconds you can capture any photograph or object your video camera can see in full color and with clarity never before available on a home computer. Digi-View's advanced features include:

- Dithering routines give up to 100,000 apparent colors on screen
- NewTek's exclusive Enhanced Hold-and-Modify mode allows for exceptionally detailed images
- Digitize images in any number of colors from 2 to 4096
- Print, animate, transmit, store, or manipulate images with available IFF compatible programs
- Digitize in all Amiga resolution modes (320x200, 320x400, 640x200, 640x400)

"Digi-View sets new standards for graphics hardware"-*InfoWorld*

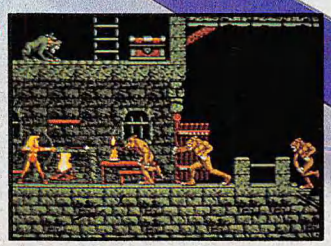
Digi-View is available now at your local Amiga dealer or call:
1-800-843-8934

ONLY $199.95

NEWTEK
INCORPORATED

THE BARBARIAN HAS ARRIVED!
THE TERRORPODS ARE COMING!

TWO GREAT NEW TITLES FROM PSYGNOSIS



BARBARIAN

Can you become Hegor the famous dragon-slaying, monster-mangling Barbarian?

Are you the warrior who can enter the fearful realms of the underground world of Durgan, a world terrorized by the evil Necron?

Can you handle the adventure, the frenzied attacks, the hidden traps, the gruesome death dealing monsters?...

Your quest; to destroy the lair of the accursed Necron. Your prize; the kingdom's crown.

Your task is awesome! You must live on your wits, conquer your innermost fears, use every skill and weapon available to you.

Hideous perils await. Can you survive?...

Are you Hegor the famous dragon-slaying, monster-mangling Barbarian?

512k colour versions available for Atari ST and Commodore Amiga – colour monitors only.

TERRORPODS

Its been a long watch...As the sun disappears over the horizon, the uninviting, grey bleakness of Colian becomes apparent. Following the intense heat of the day, the onset of night adds the bitterness of sub-zero temperatures to an already hostile environment, and the stark interior of the D.S.V. appears almost homelike.

Deep melancholy is suddenly smashed by the shrill scream of a siren. The status panel has gone crazy, an extrordinary array of lights flash uncontrollably. Good grief...what's happening?

Frantically, you turn to look at the command scanner, hunting through the mass of information before you, in a desperate attempt to decipher what has happened.

Your whole being freezes...It can't be! The Terrorpods...

512k colour versions available for Atari ST and Commodore Amiga – colour monitors only.

ARENA

The classic sports simulation.

BRATACCAS

Become Kyne the earth scientist accused of genetic fraud.

DEEP SPACE

The ultimate interstellar war game.

512k colour versions available for Atari ST and Commodore Amiga – colour monitors only.

▶ BARBARIAN	£24.95
▶ TERRORPODS	£24.95
▶ DEEP SPACE	£34.95
▶ BRATACCAS	£34.95
▶ ARENA	£29.95
▶ ARENA BRATACCAS	£34.95

Psygnosis
FREEPOST
Liverpool L3 3AB
United Kingdom
Tel. Nos.
051 647 8118 (Daytime)
051 227 4800 (After hours)

VISA

Access

S E E I N G I S B E L I E V I N G

WHO WANTS TO WIN AN AMIGA 500? –

(Nobody? Oh well, I'll take it home myself!)

Oh, so there is someone out there who does want an Amiga 500 . . . Well, this is a terrifically easy competition but we don't think that many of you will even bother to enter. After all who wants to have the best computer around? For the one or two readers who do . . . All you have to do is read this CCI with an eagle eye. What? You only bought it to use as a doorstop or to beat up muggers with? Tough, for a change start figuring out what those letters and words mean and stop just looking at the pictures . . . The answers can all be found somewhere among CCI's 188 pages!

1. **Who is Commodore UK's MD?**
2. **How many keys are pictured or mentioned in titles of articles in this CCI?**
3. **Who programmed Mega Apocalypse?**
4. **Who is CCI's Office Skatefreak?**
5. **Who is Telecomsoft's MD and Hostest with the Mostest?**
6. **How much does an Amiga 500 cover cost?**
7. **Name one Timeworks products for the 64 and its price.**
8. **Who is CCI's Technical Editor this month?**
9. **What is Micronet's Commodore section called?**
10. **In which game are you stuck in a mental hospital trying to regain your sanity through your dreams?**
11. **What does SDI mean?**
12. **How many books are there to choose from in CCI's Reader's Book Offer?**
13. **How much is Stop Press?**
14. **What is the cost of subscribing to CCI in the UK?**
15. **Where was the AmiExpo held?**
16. **How many joysticks are reviewed in Take Control?**
17. **How many Mega or Awesome rated games are reviewed in this CCI?**
18. **How many Magenta Pages are there and how many advertisements are there in them?**
19. **Who created an Ogre?**
20. **Which advertiser in CCI could be dangerous to touch with wet hands?**

Answers — can you get them on a post card? You can if you write small enough! —must reach us by January 31st 1988, to I'd love an Amiga Comp, C/o CCI 40 Bowling Green Lane, London EC1R 0NE.

COMMODORE

Don't miss out!

NOW INCORPORATING COMMODORE & AMIGA HORIZONS UK

With the growing popularity of Commodore Computing International Magazine, newsagents and bookstalls sell out quickly. More and more frustrated readers wanting the one magazine every Commodore owner needs are finding they are missing out and some months having to do without the latest news, reviews and vital feature articles and programs.

The popular solution is to place an order for your Commodore Computing International Magazine with your newsagent or by direct subscription to us.

A subscription means you get the magazine delivered to your door. It saves you time and makes sure you don't lose out on what's happening in the Commodore world.

Send in the subscription coupon below and get the best Commodore magazine the easy way — through your letterbox. Don't miss out on the best, mail the coupon **now**.

(If you don't want to cut up the magazine, we're happy to have a photocopy of the coupon or a request on plain paper.)

Commodore — Subscription Order Form

To Subscriptions Manager, Commodore Computing International, 40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC

Please send me 12 issues of *Commodore Computing International*

☐ Cheque enclosed ☐ Please debit my Access

Card No. | | | | | | | | | | | | | | | | |

☐ Subscription rate U.K. £16.50
☐ Europe £26.50
☐ Outside Europe £39.50

Expiry date: _____

Cheques should be made payable to: CROFTWARD LIMITED

Name _____

Address _____

_____

County _____ Post Code _____

Telephone (home) _____ (business) _____

Signed _____ Date (Subscription to commence) _____

OFFICIAL COMMODORE/AMIGA DEALER

— Delta Pi Software Ltd —

COMPUTERS

Amiga 2000 1Mb + 1081 Colour Mon ..... PHONE
Amiga 500 + dPaint + MORE! 459.00
Commodore 128/C2N/3 Tapes/Joystick/Games 229.00
Commodore 64C/C2N/3 Tapes/Joystick/Sports Bag/Games 159.00

PRINTERS

Okimate 20 Text & Full Graphics 7-colour printer for Amiga 199.00
Citizen 120D Dot Matrix 120cps & NLQ 179.00
Commodore DPS1101 Daisywheel 179.00
Star NL10 for C64/128 120cps & NLQ 219.00

MONITORS

Commodore 1081 Col Mon 319.00
Philips 8833 Col Mon inc lead 279.00
Philips BM7502 Green Mon inc lead 82.00
Philips BM7522 Amber Mon inc lead 94.00

MISCELLANEOUS

Commodore 1541C Disk Drive 175.00
Commodore 1571 Disk Drive 239.00
Cumana CAX354 Amiga Disk Drive 135.00
Commodore C2N Data Recorder 35.00
Super-G Cent Interf + Graphics 34.95
RS232 Interface with disk software 57.44
User port printer cable 15.99
Commodore 64 Power Supply 26.45
Amiga Modulator 24.99
Amiga 512K RAM Expansion + Clock 99.95
Surge Protector 13 Amp Plug (Adapter £14,95) 11.95
Amiga DOS Ref Manual (p&p £2 ..... 18.95
C128 Official Prog's Ref Guide (p&p £2) 18.95
C64 Official Prog's Ref Guide (p&p £2) 7.95

SOFTWARE (Examples)

Amiga VIP Professional 99.95
Amiga Scribble 2 ..... 79.00
Amiga Superbase 86.95
Amiga Pro Midi Studio 139.00
Amiga Aegis Sonix 69.00
Amiga Pagesetter DTP 99.00
Amiga Deluxe Paint 2 ..... 69.95
Superbase 128 Programable Database 55.95
Superscript 128 Word Processor 45.95
Tasword 64 40/80 Col WP — Tape/Disk 17.05/19.95
VizaWrite Classic 128 WP + Spell Check 79.35

All prices include VAT
CARRIAGE £8, EXPRESS DELIVERY £12, Software & Small Items FREE.

Delta Pi Software Ltd

8 Ruswarp Lane, WHITBY, N. Yorks. YO2 1ND.
Tel: 0947 600065 (9am-7pm)

COMMODORE 64/128. CASSETTE ONLY

X RATED ADULTS ONLY GAME

FANTASY

ONLY £6.50

Loosen your collar, get out your JOYSTICK and get stuck in. By the time you finish you'll be exhausted.

WARNING If you are easily offended do NOT order this game.

DEPT CCI
R'n'H MICROTEC
32 Hazell Way
Stoke Poges
BUCKS SL2 44D

ONLY AVAILABLE BY MAIL ORDER

---

budgetsoft

Titles for comm. 64

£1.95

LLAMA	CAMELS
FPRICE	SONG MAKER
SPIN	ALF
FPRICE	NUMBER TUMBLER
SPIN	AGEAN VOYAGE
FPRICE	LOGIC LEVELS
LONGMN	GO MICRO
SFTPRJ	THRUSTER
BUGBYT	CAPTAIN KIDD
SFTPRJ	CRAZY BALLOONS
BUGBYT	ANTICS
COMM	RADAR RAT RACE
TASKET	SUPER PIPELINE
ASL	GRAND MASTER CHESS
PRISM	WORLD CUP FOOTBALL
PRISM	PYRAMID
PRISM	BEAKY EGG SNATCHER
PRISM	GOLF
PRISM	TITANIC
PRISM	RATSPLAT
PRISM	HELION
PRISM	AH CONDOR
PRISM	EGBERT
PRISM	FABULOUS WANDA
MTRONI	HOLLYWOOD OR BUST NEW
MAD	AMAYROTE NEW
MTRONI	PIPELINE 2 NEW
INCEPT	DEFENDER 64
INCEPT	WALLY GOES RHYMELAND
INCEPT	CRAZY KONG
INCEPT	BURGER TIME
INCEPT	WHEELIN' WALLY
INCEPT	CHINA MINER
INCEPT	CUDDLY CUBURT
INCEPT	SIREN CITY
INCEPT	GET OFF MY GARDEN
INCEPT	TOKEN OF GHALL
INCEPT	VORTEX RAIDER
INCEPT	SPRITE MAN
COMM	CARRIER'SMENU (2 TAPES)
INTERD	HERCULES
COMM	BBC MASTERMIND
TYMAC	GANDOLF SORCERER
INCEPT	BIG BEN
INCEPT	QUANGO
INCEPT	GUZZLER
HESWAR	MR. T.N.T. TURBO
HESWAR	ROOTIN' TOOTIN' TURBO
HESWAR	PIT TURBO
INCEPT	HEROES OF KARN
INCEPT	TALES OF ARABIAN NIGHTS
INCEPT	WHERE'S MY BONES?
INCEPT	BIG TOP BARNEY
INCEPT	JEWELS OF BABYLON
INCEPT	EMPIRE OF KARN
INCEPT	BREAK FEVER
INCEPT	CAVERNS OF SILCAHC
INCEPT	FRONT LINE
INCEPT	CRYSTALS OF CARUS
INCEPT	PULSE
COMM	LET'S COUNT (2 TAPES)
IMAGIN	B C BILL
BES	OSPREY
HESWAR	GHOST'S MANOR
LLAMA	MAMA LLAMA
OCEAN	ROLAND'S RAT RACE
SPARKS	MACBETH
SPARKS	MERLIN
ELECT	BUZZ OFF
LLAMA	MATRIX
TASKET	POSTER PASTER
SPARKS	ICE PALACE
SPARKS	CHOPPER
SPARKS	TASKMASTER
??????	SEA SIDE SPECIAL
MICROG	EVERYONES A WALLY
NEWGEN	GATES OF DAWN
COMM	LABYRINTH
COMM	NUMBER HUSTLER
COMM	SUPER BLITZ
MIKGEN	HERBERTSDUMMY RUN
MIRROR	CAESARS TRAVELS
SPARKS	COUNTDOWN MELTDOWN
COMM	BIOLOGY
COMM	GEOGRAPHY
COMM	HISTORY
COMM	CHEMISTRY
COMM	GERMAN
COMM	COMPUTER STUDIES
VIRGIN	HIDEOUS BILL
VIRGIN	FALCON PATROL
LONGMN	AGENT U S A
ALLIGA	LOCO
ANIROG	PCFUZZ
HARE	HARERAISER
BUGBYT	MISTER MEPHISTO
COMM	HIDE AND SEEK
ARIOLA	HARD HAT MAC
COLLIN	THE REAL YOU
ARTIC	BEAR BOVVER
COMM	CASTLE OF DREAMS
LOTH	JOHNNY REB II
ARGUS	SCHIZOFRENIA
ARGUS	RUPERT
COMM	QUIZMASTER
ARGUS	YABBA DABBA DOO!
ARIOLA	ONE ON ONE
ARIOLA	WILD WEST
ARIOLA	BATALYX
OCEAN	TORNADO LOW LEVEL
QUICK	BOOGABOO
QUICK	SEE SAW
COMM	MATCHMAKER
USGOLD	DRELBS
TASK	GYROPODS (DISC)
CENTUR	SUPERBASIC 64
ARIOLA	SPELLUNKER
AUDIOG	FRANTIC FREDDIE
BUGBYT	AUTOMAN
THNEMI	RIVER RESCUE
SPARKS	TRIO (3 GAMES)
USGOLD	ZLINKY
TASKET	GYROPOD
BEYOND	PSYTRON
DOMARK	EUREKA
FIREBD	SABRE WOLF
FIREBD	UNDERWORLDE
ARIOLA	KAISER
PARA	OUT BACK
COMM	CLOWNS
FRONT	INTERVIEW
DREAMS	SPY'S DEMISE
OCEAN	GILLIGAN'S GOLD
TASK	CAD CAM WARRIOR
ORPHES	ELIDON
COMM	GORTEX
BUGBYT	TWIN KINGDOM VALLEY
STATE	FRAK
EDGE	ALMAZZ
FRUNER	STORM WARRIOR
BEYOND	QUAKE
BEYOND	PSI WARRIOR
CASCDE	3D BEEE NEW
CASCDE	DAVY NEW
CASCDE	ICE BUSTERS NEW
CASCDE	4 GAMES VOL.1 NEW
PHOUSE	AFTERMATH NEW
PHOUSE	GODS AND HEROES NEW
PHOUSE	GUN RUNNER NEW
PHOUSE	HERCULES NEW
PHOUSE	SECRET OF KANDAR NEW
PHOUSE	TERMINATOR NEW
PHOUSE	XENON RANGER NEW
PLAYER	AURIGA NEW
PLAYER	VELOCIPEDE II NEW
PLAYER	FUNGUS NEW
PLAYER	DESERT HAWK NEW
PLAYER	VELOCIPEDE NEW
PLAYER	FRUITY NEW
PLAYER	RONALD RUBBERDUCK NEW
PLAYER	ELECTRIX NEW
PLAYER	CRAZY COASTER NEW
PLAYER	TOAD FORCE NEW
PLAYER	CLEAN UP TIME NEW
MTRONI	BMX RACERS NEW
HEWSON	PARADROID NEW
SPARKS	BLACK HAWK NEW
FRONT	STORM WARRIOR NEW
MIKGEN	FROSTBYTE NEW
MLBHS	DARK TOWER NEW
MLBHS	STORM TROOPER NEW

£2.95

GMSMC	SKULL
ABRASC	SAM'S JAM
QUICK	AQUAPLANE
QUICK	STING 64
TERMIN	STELLA DODGER
MICRO	JINN GENIE
HARE	HARERAISER
TYNSFT	O LEVEL PHYSICS
TYNSFT	O LEVEL CHEMISTRY
TYNSFT	O LEVEL MATHS
ARIOLA	D-BUG
COMM	GORF
COMM	STAR RANGER
MISTNIC	LAST OF V8
COMM	HARBOUR ATTACK
COMM	STAR POST
COMM	OMEGA RACE
COMM	TOOTH INVADERS
R'N'B	MISSION 2
DOMARK	A VIEW TO A KILL
DOMARK	CODE NAME MATT II
ENGSOF	HENRY'S HOUSE VOL.2
ACTVSN	MASTEROF THE LAMPS
THNEMI	DANGER MOUSE D.TROUBLE
ARIOLA	CHOPLIFTER
PRISM	TURBO 64
PRISM	PILOT 64
PRISM	SUPERMAN
OCEAN	CHINESE JUGGLER
SPARKS	DANGER MOUSE-B.FOREST
ARIOLA	DAVID'S MIDNIGHT MAGIC
COMM	LAZARIAN
A'N'F	GUMSHOE
COMM	INTRO TO BASIC VOL 1
COMM	INTRO TO BASIC VOL 2
ARIOLA	STEALTH
SFTPRJ	SMITH SHOW-JUMPING
SFTPRJ	JET SET WILLIE
NOVA	ENCOUNTER
FIREBD	NIGHT SHADE
BEYOND	SHADOWFIRE
DOMARK	SPLIT PERSONALITIES
NEXUS	NEXUS
ARGUS	BROAD STREET
ARGUS	EVIL CROWN
PITMAN	PITMAN TYPING
PRISM	PYRAMID/TITANIC
PRISM	BEAKYRATSPLAT
ADDICT	SOFTWARE STAR
A'N'F	CHUCKIE EGG
SFTPRJ	MANIC MINER
USGOLD	B BOB STRIKES BACK
ACTVSN	PASTFINDER
ACTVSN	ROCK 'N BOLT
ACTVSN	ON COURT BASEBALL
MLBHS	MORDEN'S QUEST
ENGSOF	TAPPER
USGOLD	FORBIDDEN FOREST
OCEAN	FRANKIE GOES TO HOLLY
ULTIM	STAFF OF KARNATH
INCEPT	PANIC
MELBRO	ZIM SALA BIM
MELBHO	HAMPSTEAD
NEWGEN	J. BARRINGTON'S SQUASH
ULTIM	BLACK WYTCH
MELBHS	TERRORMOLINOS!
LEVEL9	SEC.DIARY OF A MOLE
OCEAN	ANDROID 2
BEYOND	ENIGMA FORCE
ACTVSN	BEAMRIDER
MELBHS	STARION
MELBHS	FIGHTING WARRIOR
NEXUS	ASSAULT MACHINE
NEXUS	WARRIOR II
MPOWER	STOCK CAR NEW
MPOWER	JET POWER JACK NEW
MPOWER	CYBERTRON MISSION NEW
MPOWER	BUMBLEBEE NEW
MPOWER	FELIX IN THE FACTORY NEW
MPOWER	FRENZY NEW
MPOWER	GHOULS NEW
MPOWER	SWOOP NEW
CASCDE	SKY RUNNER NEW
ARIOLA	VALKYRIE 17 NEW
PRISM	BOULDERDASH NEW
PRISM	BOULDERDASH II NEW
ARIOLA	MARBLE MADNESS NEW
GREMLI	AVENGER NEW
GREMLI	KRAKOUT NEW
GREMLI	STAR GAMES NEW
GREMLI	THING ON A STRING NEW
GREMLI	ZAPP SIZZLER II NEW
GREMLI	JACK THE NIPPER NEW
GREMLI	FUTURE KNIGHT NEW
MARTEK	TARZAN NEW
OCEAN	MUTANTS NEW
ACTVNS	HOWARD THE DUCK NEW
EDIN	HYPABALL NEW
DREAMS	DANDY NEW
DREAMS	ALIENS NEW
QUICK	ELEVATOR ACTION NEW
MICROP	NUCLEAR EMBARGO NEW
STATE	VIKINGS NEW
EDIN	MISSION A.D. NEW
PSS	BATTLE OF BRITAIN NEW
GREMLI	TRAIL BLAZER NEW
USGOLD	KENNEDY APPROACH NEW
MARTEK	WAR NEW
ADDICT	INTERNATIONALKARATE
PRISM	J.REB/SKULL/WANDA/CONDOR
ADDICT	FOOTBALL MANAGER
NEXUS	SUPER SUNDAY
ADDICT	HEADCOACH NEW

£3.95

MTECH	SCUBA DIVE
USGOLD	BEACH HEAD
COMM	SPIRIT OF THE STONES
DOMARK	FRIDAY THE 13th
ACTVSN	ON COURT FOOTBALL
INCENT	CONFUZION
INFINI	MOEBIUS
FIREBD	DEMONS OF TOPAZ
ENGSOF	HENRY'S HOUSE
IMAGIN	WORLD SERIES BASEBALL
OCEAN	HUNCHBACK II
OCEAN	KONG STRIKES BACK
SPARKS	SPARKLERS SPECIAL
COSMI	AZTEC CHALLENGE
CRAIG	SYSTEM 1500
ARIOLA	RAID BUNGLING BAY
ARGUS	THE FORCE
DURREL	COMBAT LYNX
INFOGR	MANDRAGORE
ACTVSN	GHOSTBUSTERS
ACTVSN	BACK TO THE FUTURE
ACTVSN	MIND SHADOW
TYNSFT	MICRO VALUE(4 GAMES)
SFTPRJ	JET SET WILLY 2
ACTVSN	LITTLE COMPUTER PEOPLE
LEGEND	VALHALLA
ULTIM	IMHOTEP
USGOLD	BRUCE LEE
ARIOLA	MURDER ON ZINDERNAUF
COMM	ARCADEEXTRAVAGANZA
COMM	DEADLINE (DISC)
COMM	FANTASY FIVE (DISC)
COMM	RAIL BOSS (DISC)
COMM	STAR CROSS (DISC)
COMM	SUSPENDED (DISC)
COMM	ZORK I (DISC)
COMM	ZORK 2 (DISC)
COMM	ZORK 3 (DISC)
ORPHES	THE YOUNG ONES
COMM	MONEY MANAGER (DISC)
MELBHS	SHERLOCK HOLMES
ARIOLA	TOUCHDOWN FOOTBALL
COMM	SIMONS BASIC EXT.50(DISC)
HESWAR	CELL DEFENCE (DISK)
ARIOLA	STARSHIP ANDROMEDA
USGOLD	LAW OF THE WEST NEW
MELBHS	GYROSCOPE NEW
ENGSOF	LEVIATHAN NEW
ELITE	SCOOBY DOO NEW

£4.95

OCEAN	D THOMPSON DECATHLON
ACTVSN	BALLBLAZER
ACTVSN	DEUX EX MACHINA
DREAMS	MERMAID MADNESS
ARIOLA	DEACTIVATORS
ACTVSN	RESCUE ON FRACTALUS
MINDGM	ALIEN
USGOLD	FORT APOCALYPSE
USGOLD	BLUE MAX
MELBHS	DARK TOWER STAR TOOPER
HEWSON	GRIBBY'S DAY OUT
USGOLD	ZAXXON
ARIOLA	ARCHON
ARIOLA	MULE
PSION	MATCH POINT 64
ODIN	NODES OF YESOD
MCMLN	MAGIC
ACTVSN	SPACE SHUTTLE
ACTVSN	PITFALL II
USGOLD	SUPER ZAXXON (DISC)
MCMILL	SCREENPLAY NEW
MELBHS	REDHAWK NEW
HEWSON	IRIDIS OC (DISC) NEW
QUICK	MAX HEADROOM NEW
DREAMS	DANDY (DISC) NEW
ACTVSN	TASS TIMES (DISC) NEW
STATUS	VIKINGS (DISC) NEW
ELITE	1942 NEW
CASCAD	ACE NEW
DTBYTE	BOULDERDASHCONSTRU.KT

£5.95

COMM	SCOPE 64
ACTVSN	HERO
ACTVSN	PITFALL
CRL	BLADE RUNNER
PARKER	QBERT
ATARI	DONKEY KONG
ATARI	DIG DUG
COMM	LOCOMOTION
COMM	HI FLYER (DISC)
LEIGEN	KENSINGTON
COMM	SPIRIT OF STONES (DISC)
VIRGIN	NOW GAMES II
SIERRI	FROGGER (DISC)
ARIOLA	LAPIS PHILOSOPH(DISK)
ATARI	ROBOTRON
INFOGR	MANDRAGORE
ACTVSN	MIND SHADOW (DISC)
ACTVSN	LITTLE COMP. PEOPLE(DISC)
ACTVSN	BEAM RIDER (DISC)
ACTVSN	HERO (DISC)
ACTVSN	TOY BIZARRE (DISC)
ACTVSN	ZENJI (DISC)
ACTVSN	PITFALL II (DISC)
ACTVSN	RIVER RAID (DISC)
ACTVSN	ROCK'N'BOLT (DISC)
ACTVSN	TRACER SANCTION(DISC)
ACTVSN	WEB DIMENSION (DISC)
ACTVSN	MASTER OF LAMPS(DISC)
ARIOLA	WILD WEST (DISC)
ARIOLA	BUG BLITZ (DISC)
ARIOLA	SAUCER ATTACK (DISC)
COMM	FUTURE FINANCE (DISC)
ARIOLA	MURDER ON ZINDERNEUF
ARIOLA	GOLF CONSTRUCTION
HESWAR	GRAPHICS BASIC (DISC)
TRILL	AMAZON (DISC)
WINDHM	BELOW THE ROOT
WINDHM	ALICE IN WONDERLAND
VISION	BRENDAN'S BASIC
NEXUS	WARRIOR II(DISC) NEW
NEXUS	ASSAULT MACHINE (DISC)NEW
WINDHM	SWISS F. ROBINSON (DISC)NEW
ARIOLA	SCARABEUS NEW
OCEAN	THE NEVER ENDING STORYNEW
ORIGIN	EXODUS NEW
VIRGIN	FA CUP FOOTBALL NEW
ACTVSN	KORONIS RIFT NEW
ACTVSN	THE EIDOLON NEW
ACTVSN	THE GREAT US ROAD RACE

£6.95

ENDURA	INTERNATIONALKARATENEW
ADDICT	HEADCOACH(DISC) NEW
BEYOND	SPY Vs SPY
ARIOLA	DEACTIVATORS(DISK)
ARIOLA	ONE ON ONE(DISK)
USGOLD	ZORRO
ARIOLA	SKYFOX
ARIOLA	ARCHON 2
ARIOLA	WIZARD
ARIOLA	WIZARD (DISC)
ARIOLA	KAISER (DISC)
ARIOLA	MULE (DISC)
ARIOLA	FORECASTER
ACTVSN	SPACE SHUTTLE (DISC)
ARIOLA	ARTIC FOX
ARIOLA	SKYFOX (DISK)
ARIOLA	TOUCHDOWNFOOTBALL
CASCAD	DISK 50 (50 GAMES) NEW
MLBHSE	LORD OF THE RINGS NEW

£9.95

ARIOLA	RACING DESTRUCTION
ARIOLA	MUSIC CONSTRUCTION
ARIOLA	ADVENTURE CONST. (DISK)
ARIOLA	MAIL ORDERMONSTER(DISK)
ARIOLA	MUSIC CONSTRU.SET(DISK)
MASTER	INTRO TO PROG. VOL 2 (VHS)
HESWAR	HESGAMES (DISC)
SPIN	ROCK'N'RHYTHM
TRILL	RENDEZVOUS WITH RAMA
ARIOLA	STANDING STONES (DISK)
ARIOLA	ARCHON 2 (DISC)
TRILL	FAHRENHEIT 451(DISC) NEW

£11.95

ARIOLA	7 CITIES OF GOLD (DISK)
ARIOLA	GOLF CONSTRUCTION(DISK)
ARIOLA	ROBOT RASCALS(DISK)
ARIOLA	ARTIC FOX(DISK)

Plus 4/C16

£1.95

PRISM	GOLDEN BATON NEW
ADVENT	PERSEUS AND ANDROMEDA
M 199	MAIL TRAIL
M 199	SEA STRIKE
M 199	MEGA ZAP
M 199	RAIDER
M 199	ZONE CONTROL
M 199	CONTROL COMMAND
PRISM	SKELBY
PRISM	OPERATION RED MOON
PRISM	LASER 900
PRISM	STARLIGHT 1
PRISM	GNASHER
PRISM	GOLF
TYNSFT	O LEVEL PHYSICS
TYNSFT	O LEVEL CHEMISTRY
TYNSFT	O LEVEL MATHS
TYNSFT	O LEVEL BIOLOGY
ARIOLA	STARBURST
OPTYX	DEATH RIVER
COMM	MAYHEM
TYNSFT	SHOOT IT
TYNSFT	HOPPIT
TYNSFT	MUNCH IT
TYNSFT	CLIMB IT
KNIGHT	MANIC DEATH CHASE
TYNSFT	PIG ATTACK
TYNSFT	ZAP-EM
ADVENT	ESCAPE FROM PULSAR 7
ADVENT	TIME MACHINE
ADVENT	TEN LITTLE INDIANS
ADVENT	WAXWORKS
ADVENT	WIZZARD OF AKYRZ
TYNSFT	RAFFLES
GREMLI	DORK'S DILEMMA
TYNSFT	WACKY PAINTER
SOLAR	CRUNCHER NEW
SOLAR	INVASION 2000 AD NEW
SOLAR	ROBIN TO THE RESCUE NEW
SOLAR	GALAXIONS NEW
SOLAR	KNOCK OUT NEW
SOLAR	TREASURE HUNT NEW
SOLAR	MISSION MARS NEW
SOLAR	SUICIDE RUN NEW
SOLAR	ALIEN ATTACK NEW
SOLAR	QUICK DRAW NEW
PHOUSE	BERKS NEW
PHOUSE	SOLI NEW
PLAYER	KILLAPEDE NEW
PLAYER	GUZZLER NEW
PLAYER	BUBBLETROUBLE NEW
PLAYER	AURIGA NEW
PLAYER	VARMIT NEW
SFTPRJ	JET SET WILLY

£2.95

BUGBYT	DIAGON
TYNSFT	LUNAR DECKING
PRISM	ARROW OF DEATH
GREMLI	XARGON WARS
GREMLN	XARGON'S REVENGE
LLAMA	MATRIX/LAZER ZONE NEW
LLAMA	INTERNATIONAL KARATENEW
GREMLI	CLASSICS III NEW
GREMLI	WIMBLEDON NEW
GREMLI	TRAILBLAZER NEW
TYNSFT	WHO DARES WIN NEW
ADDICT	FOOTBALL MANAGER

£3.95

COMM	VIDDUZZLES
TYNSFT	MICRO VALUE(4 GAMES)
TYNSFT	EUROPEAN GAMES
SFTPRJ	MANIC MINER
ARIOLA	HYPERFORCE
USGOLD	BEACH HEAD
GREMLN	GULLIWING FALCON
ROBTEK	KING SIZE (50 GAMES) NEW
GREMLI	C16 CLASSICS VOL.1 NEW
MVALUE	I.BOTHAM'SJET SET WILLYNEW

£5.95

COMM	LOCOMOTION

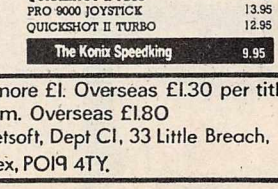
Vic 20

£1.95

COMM	ENGLISH LANGUAGE
KTEL	PLAGUE/ALIEN DEMON
LIVWRE	JUMPIN'JACK NEW
LIVWRE	TRIAD NEW
LIVWRE	STARSHIP ESCAPE NEW
LIVWRE	BEAST OF EDEN NEW
LIVWRE	INVADERS NEW
LIVWRE	ASTRO FIGHTERS NEW
LIVWRE	MULTITRON NEW
LIVWRE	SCORPION NEW

PERIPHERALS

p&p £1.00 Overseas £1.75p



Compatible with Commodore VIC 20, C64, C16, Plus 4, C128 and C128D Home Computers

£49.95

CITIZEN TWO-COLOUR DOT MATRIX PRINTER

QUICKSHOT 11 JOYSTICK	5.95
QUICKSHOT II PLUS	8.95
PRO 9000 JOYSTICK	13.95
QUICKSHOT II TURBO	12.95
The Konix Speedking	9.95

Post and packing: 1-3 titles 75p, 4 or more £1. Overseas £1.30 per title.
PERIPHERALS: £1 per item. Overseas £1.80
Please send cheques/P.O.'s to: Budgetsoft, Dept CI, 33 Little Breach, Chichester, W.Sussex, PO19 4TY.

I·C·P·U·G

the Independent Commodore Products Users Group is the largest and most friendly computer club in the country

- **Many local groups with regular meetings**
- **Superb FREE Newsletter - 80 plus pages of reviews, news & information every two months**
- **We support all Commodore Machines old and new: PET, VIC20, 64, 16,+4, PC, 128 & AMIGA**
- **Free Software Library of public domain programs for all machines. Members only send blank disk/tape and return p/p**
- **Over 100 disks of Amiga public domain software available free to members**
- **Help and Advice**
- **Discount scheme**
- **Subscription only £10 per year (UK) plus £1 joining fee**

If you are seriously interested in using or programming any Commodore computer, then joining ICPUG is a must!

For full details, send a stamped, addressed envelope to:

ICPUG Membership Secretary, Jack B. Cohen, 30, Brancaster Road, Newbury Park, Ilford, Essex, IG2 7EP
01 590 8849 Day 01 346 0050 Ev. & W'ends

TROJAN CAD-MASTER™

THE ULTIMATE IN GRAPHICS TOOLS

SUPERB GRAPHICS SOFTWARE PLUS A TOP QUALITY LIGHT PEN

COMMODORE 64/128 PLUS4 C16

Discover the exciting world of creating your own graphics on screen.

- **FREEHAND DRAW** — 5 pen thicknesses incl. Quills (not C16)
- **PAINT BRUSH** - for the artistic touch
- **FILL ANY SHAPE** - use all colours and patterns
- **GEOMETRIC SHAPES** - circles, boxes, triangles, lines & banding
- **DYNAMIC RUBBER BANDING** - on all geometric options
- **PIN-POINT FUNCTION** - for pixel accuracy on all functions

Plus many more too numerous to mention in this ad. All these features in the Program + a top quality Light Pen and an Instruction booklet in one reasonably priced package. Easy to use for creating colourful pictures or technical drawings. Ideal for use by all ages of micro users. Full back-up service from manufacturers. Available at good dealers or direct from Trojan Products.
Please state which Micro.

ONLY £19.95 per pack

TROJAN

Micro Computer Software & Accessories
Send cheque/P.O. to
TROJAN PRODUCTS
166, Derlwyn, Dunvant, Swansea SA2 7PF
Tel: (0792) 205491.
TRADE ENQUIRIES WELCOMED

commodore

AMIGA — FROM £455!

Amiga A500 with 512K RAM, 880K 3.5" disk, mouse, software	£455
Amiga A500 TV As above, plus A521 TV/composite modulator	£475
Amiga A500M with A1081 high-res colour monitor	£735
Amiga A2000 with 1.5MB RAM, 880K 3.5" disk, mouse, software	£1099
Amiga A2000M As above, plus A1081 hi-res colour monitor	£1349
Amiga A2000 XTM As above, plus PC XT bridge board & floppy	£1849
Amiga A2000 HDM As A2000M plus 20MB AmigaDos hard disk	£1949

Prices include 15% VAT, a FREE copy of DeLuxe Paint, FREE delivery to your door, one year warranty. Overnight delivery £12

1 YEAR ON-SITE MAINTENANCE WITH EVERY A2000 AMIGA SYSTEM... PLUS

FREE GOLDEN KEY CARD!

stay at over 200 top hotels as often as you like for a year, and for each night's stay, just pay for breakfast and dinner!

PERIPHERALS AMIGA

10 disks in plastic library case	£20
A521 TV/composite modulator	£25
A501 plug-in RAM/clock 512K	£105
A1081 high-res colour monitor	£299
A1010 3.5" external disk drive	£225
Cumana 3.5" external disk drive	£129
A2010 3.5" internal disk drive	£199
A2088 PC-XT bridge board with 5.25" internal disk drive	£529
A2286 PC-AT bridge board with 5.25" internal disk drive	£749
A2090PC 20MB internal hard disk with MS DOS controller	£529
A2090 20MB internal hard disk with Amiga DOS controller	£629
A2052 2MB internal RAM	£399
Precision printer 480cps, NLQ	£399
Canon PJ1080A colour printer	£499
Xerox 4020 colour printer	£1095
HP LaserJet laser printer	£1995

CREATIVITY AMIGA

VizaWrite DeskTop	£89.95
Word Perfect	259.95
ProWrite	109.95
Page Setter	94.95
Scribble II	79.95
City Desk	£139.95
De Luxe Music	59.95
De Luxe Paint II	59.95
DigiPaint	54.95
De Luxe Video II	89.95
Aegis VideoScape	124.95
Aegis Animator	94.95
DigiPic fast frame grabber	299.95
Aegis Draw Plus	169.95
Dynamic CAD 2.3	359.95

PRODUCTIVITY AMIGA

SuperBase Personal	£79.95
Acquisition	249.95
Analyse II	119.95
Logistix	99.95
VIP Professional	£109.95
MaxiPlan Plus	129.95
SAM Basic	89.95
True Basic	64.95
True Basic libraries	39.95
MCC Assembler	59.95
MCC Pascal	69.95
Lattice C 3.1	144.95
A/C Fortran	229.95

128 64C

Commodore 128D computer	£399
Commodore 128 computer	£225
Commodore 1571 disk drive	£259
Citizen 120D 120cps, F/T, NLQ	£199
1901C 40/80 colour monitor	£275
1541C disk drive	£169
64C computer	£139
64C Connoisseur Collection	£195

Prices include 15% VAT, FREE delivery to your door, and one year warranty. Please add £12 for overnight delivery.

UNBEATABLE SUPERBASE & SUPERSCRIPT BARGAINS!

SuperBase 128	~~99.95~~	£44.95	SuperBase 64 & Plus/4	~~79.95~~	£34.95
SuperScript 128	~~89.95~~	44.95	SuperScript 64	~~69.95~~	34.95
SuperBase: The Book		11.95	SuperBase Starter 64	~~39.95~~	19.95

MORE SOFTWARE BARGAINS FOR YOUR C64 AND 128!

VizaWrite Classic 128	~~99.95~~	£79.95	GEOS 64 V1.3	~~49.95~~	£39.95
VizaWrite 64 (disk)	~~59.95~~	39.95	SwiftCalc 128	~~59.00~~	54.95
VizaWrite 64 (cartridge)	~~89.95~~	69.95	Data Manager 128	~~59.00~~	54.95
VizaStar 128	~~129.95~~	99.95	WordWriter 128	~~59.95~~	54.95
VizaStar 64 XL8	~~99.95~~	79.95	Pocket Planner 128	~~49.95~~	44.95
VizaStar 64 XL4	~~79.95~~	69.95	MicroClerk 128	~~99.95~~	94.95

COMMODORE 128 and 64... PROGRAMMER'S CORNER

PetSpeed 128	The Basic 128 compiler, from Oxford Systems	~~49.95~~	£19.95
Oxford Pascal 128	The complete J.& W Pascal for your 128	~~49.95~~	19.95
Super C 128	Complete C language, with extensions	~~59.95~~	42.95
Cobol 128	The complete COBOL package from Abacus	~~34.95~~	32.95
Hack Pack 128	All-in-one Programmer's Toolkit & Ram-Disk	~~39.95~~	17.95
C128 Tricks and Tips	Essential reading for the 128 programmer	~~12.95~~	9.95
1750 Expansion RAM	512K expansion RAM cartridge for the 128		149.00
RamDos 128	Lightning fast Ram-Disk for 512K expansion RAM		32.95
BrainBox IEEE	Supports IEEE/PET disks & printers etc. (128 & 64)		79.95
Super Disk Doc	Rescue your lost disk data! (1541/70/71, 4040)	~~19.95~~	14.95
Simon's Basic 64	Programmer's cartridge from Commodore	~~50.00~~	29.95
Oxford Basic 64	All-in-one Basic compiler, toolkit, compressor	~~34.95~~	19.95
Oxford Pascal 64	The complete J & W Pascal for your 64	~~49.95~~	19.95
Super C 64	Complete C language, with extensions	~~59.95~~	42.95
Cobol 64	The complete COBOL package from Abacus	~~34.95~~	32.95

■■■ IF YOU WANT IT TOMORROW... CALL US TODAY! ON 01-546-7256 ■■■
Retail callers are welcome at our **Guildford** showrooms, please telephone 0483-504125

Prices are POST FREE & include VAT. Order by phone with your credit card, or send cheque/PO or your credit card number. Official orders welcome. We despatch same day by FIRST CLASS post. Please allow 5 days for delivery of hardware orders. Prices quoted are subject to availability. Ref. AS2

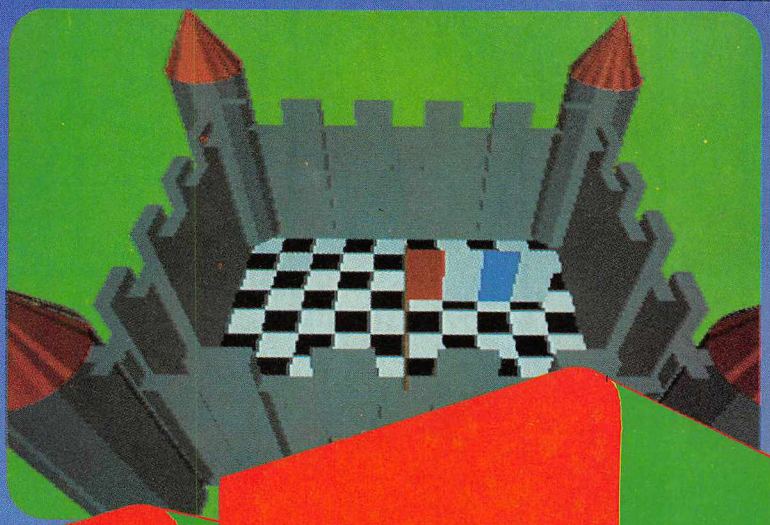
Access VISA

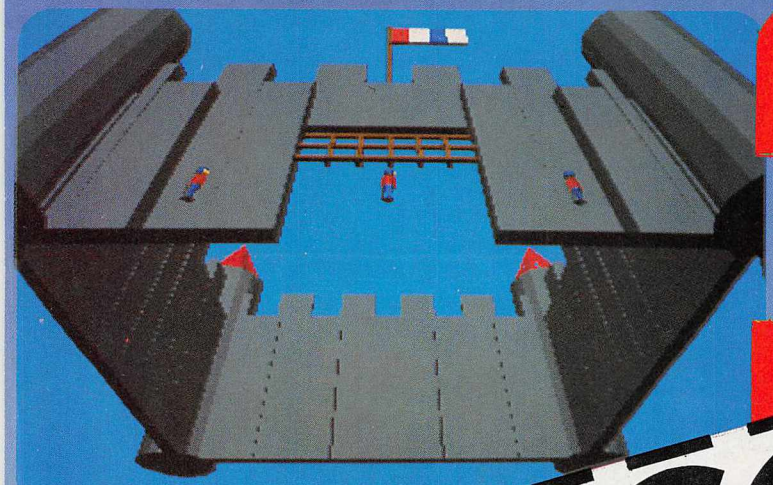
Calco Software

LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

COMMODORE BUSINESS and AMIGA USER

September 1987





3D Videos

SUBSCRIBE!

You can keep up to date with everything that's happening in Commodore Business and with everything new on the AMIGA by taking out a subscription to Commodore Business and AMIGA User.

This new and unique international magazine is presently published every other month and will be mailed to you direct. Simply fill out the coupon for this special introductory offer, and send it to us now.

To: Subscriptions Manager, Commodore Business and Amiga User
40 Bowling Green Lane, London EC1R 0NE. Tel: 01-278 0333 Telex: 267247 FINSEC

Please send me 6 issues of Commodore Business and Amiga User

☐ Subscription rate UK U.K. £9.00
☐ Europe £16.00
☐ Outside Europe £22.80

☐ Cheque enclosed
☐ Please debit my Access Card No.

Expiry date Signature

Date subscription to commence

Name

Address Postcode (business)

County

Telephone (home)

...and WordPerfect

MEGA!

The time is fast approaching when CCI announce the winners of the legendary Oskars. Everyone in Commodore world is beginning to bite their nails down to the elbow. This year has seen the release of loads of great products, games, add-ons, joysticks, the quality just keeps improving. Find out who wins what, when we announce it shortly. But for now, here are some who can expect to be among those fighting to be the proud owner of that highly-prized little golden statuette.

C64 Nominations

Best arcade game

A number of offcial arcade conversions have appeared this year as well as the usual arcade-style gams. The pick of the bunch include great conversions of Arkanoid and Road Runner, with Sensible Software's excellent and original Wizball all capable of keeping any gamer riveted to his joystick. Mega Apocalypse has come in as a late runner.

Adventure

There's been a lot to puzzle over in '87. A wide variety of real gems have been released this year, Infocom's superb Stationfall, Magnetic Scrolls' Guild of Thieves, US Gold's Killed Until Dead, and Infogrammes' Murder on the Atlantic to name but a few.

Arcade/Adventure

Of course, the combination of excellent graphics, music, gameplay and puzzles make The Last Ninja a leading contender, with the three dimensional Head Over Heels and Auf Weidersehen Monty combining brain and joystick power to good effect.

Sports Game

Epyx have done the necessary to earn two nominations so far, those being California Games and Street Sports Baseball, with Street Sports Basketball in the pipeline. The ultimate golf simulation, World Class Leaderboard is surely in with a more than fair chance.

Beat 'em Up

This year saw relatively few beat 'em ups. Palace's head-chopping blood spurting Barbarian stands out, closely followed by the all-in street brawl Renegade. To add to these is International Karate threatening to land a flying kick at the last moment.

Simulation

The sequel to Ace, winner of last years simulation category, must be in with a good chance, challenged by Microrpose' Gunship, and the clever Twin Tornado.

Role Playing Game

Two stormers from Electronic Arts, Legacy of the Ancients and Bards Tale II appeared last month to satisfy role players and look set to be great hits.

STARS OF '87

Compilation
Both of Elite's 6 Paks offer excellent value for money, Epyx also bundling four of their greatest in Epyx Epics. Gremlin are releasing a great stocking filler with ten of their best, working out at a pound a game! Ocean have their 2 2 sports gathering and watch out for Solid Gold from you know who!

Original
Originality is hard to come by these days, the futuristic Shockway Rider being one of the few, along with the entertaining Accolade's Comics, and Stifflip and Co.

Best Graphics
California Games and The Last Ninja come strong in this area, with Road Runner and Hysteria's sprites worthy of a nomination, while Accolade's colourful and amusing Comics are a pleasure to look at.

Best Music
The highly entertaining interactive music that fronted Delta, which itself contained some excellent pieces is in the running with The Last Ninja for its 12 atmospheric pieces, and Martin Galway's Wizball and strange Game Over music.

Cheapo of the Year
An abundance of cheapo's have surfaced in the last year, the best being such bargains as Kikstart 2, Microrhythm + and Lazer Force, as well as many other quality re-releases.

Best Sound Effects
The budget hit I, Ball, had some excellent speech, if not actual FX, and Arkanoid's FX were better than its arcade cousin. Mega Apocalypse' digitised speech and FX were some of the best heard for a long while, and rank along those of Thalamus' Delta.

Software House of the Year
Epyx' consistently excellent games rank them as the company to follow. This year, System 3's Last Ninja has given their reputation a boost. Many other great games have been released, but few companies are as consistent as these. With US Gold likely to be considered for its big guns yet to come.

Control Device of the Year
Some very attractive quality joysticks have appeared this year, Dynamic's transparent Competition Pro with extra bits, Robtek's novel Terminator shaped like a hand-grenade, and a very promising new stick from Leisure Soft called the Cruiser.

Programmer (or team) of the Year
Once again, Epyx and System 3 crop up. Both said teams have produced world beating games of amazing quality. A fairly new name, Stavros Fasoulas has made a name for himself and Simon Nicol for Martech's Mega Apocalypse.

Shoot 'em Up of the Year
This year has seen a boom in shoot 'em ups (no joke intended). Thalamus' almost arcade quality Delta, Martech's Mega Apocalypse and Hewson's Zynaps are all deserved of a mention.

Most Offensive Game of the Year
A number of violent games have stirred up a moral hornets nest. The gorey Nemesis the Warlock, the mushy massacre of Deathwish III, and the decapitation and the buxom page 3 girl of Barbarian, are all enough to make you relive your last meal.

Worst Game
Great cons of our time have included such tragedies as the mid-priced Killer Ring and Dead Ringer, and the pathetic Tag-Team Wrestling are contenders for Turkey of the Year.

Best Game of 1987
Awesomely rated Last Ninja, California Games, Street Sports Baseball, Mega Apocalypse, Hysteria must be in with a fighting chance of the ultimate accolade, Best Game of 1987. But there are releases yet to hit us.

T.H.

LAN COMPUTER SYSTEMS LTD

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

AMIGA A500 SERIES

★ ALL SOFTWARE OPTIONS ARE SUBJECT TO AVAILABILITY ★

A500 SYSTEM 1
Amiga A500 Computer, Deluxe Paint, Tutorial Disk, Workbench, Amiga Basic and Demonstrations Disk.
£370.00

A500 SYSTEM 2
Amiga A500 Computer, Deluxe Paint 1, Sports Holder, GFL American Football, Baseball, Golf, Workbench, Amiga Basic and Demonstrations.
£385.00

A500 SYSTEM 3
Amiga A500 Computer, Kings Quest III, Portal, Tass Times, Deluxe Paint 1, Tutorial Disk, Workbench, Amiga Basic and Demonstrations Disk.
£385.00

A500 SYSTEM 4
Amiga A500 Computer, Music Studio, Shanghai, Bastketball, Deluxe Paint 1, Tutorial Disk, Workbench, Amiga Basic and Demonstrations Disk.
£385.00

A500 SYSTEM 5
Amiga A500 Computer, Philips 8833 Colour Monitor with stereo sound. Deluxe Paint 1, Workbench, Tutorial Disk, Amiga Basic and Demonstrations Disk
AND Selection of three leisure titles from Music Studio, Shanghai, Basketball, Kings Quest III, Portal, Tass Times, GFL American Football, Baseball or Golf.
£599.00

A500 SYSTEM 6
Amiga A500 Computer, Amiga A1081 Colour Monitor, Software options as for System 5 subject to availability.
£619.00

A500 SYSTEM 7
Amiga A500 Computer, Deluxe Paint 1, Tutorial Disk, Workbench, Amiga Basic and Demonstrations Disk. Amiga Joystick **AND** Twenty LAN Computer selection software titles.
£385.00

A500 SYSTEM 8
Wordprocessor System, Amiga A500 Computer with Star NL10 Dot Matrix printer and cable. Vizawrite wordprocessing package.
£629.00

AMIGA A2000 SERIES

A200 COMPUTER
Free one year on site maintenance
Free monochrome monitor
Free scribble wordprocessor
Free technical support hot line
£1,095

A200 COMPUTER
High resolution colour monitor
Free one year on site maintenance
Free technical support hotline
Free LAN selection of 20 software titles. **£1,195.00**

A200 COMPUTER
XT bridge board with 5¼in disk drive (MSDOS compatibility)
20 MB hard disk & control card
5 LAN selection MSDOS application programs.
£1,595

A200 COMPUTER
High resolution colour monitor
Internal drive
Video system with camera & stand Eight video applications programs
The Complete Computer Video System **£2,699.00**

PC SERIES

PC
Intel 8088 processor, 512K ram, 2 x 360K floppy drive, with monochrome monitor
£699.00

PC20
As for PC10 with 20MB hard disk
£999.00

PC40/20
Intel 80286, 6 or 10 MH3, 1 MB ram, 20 MB hard disk, 1.2 MB floppy, MSDOS, GWBASIC with tilt & swivel monitor
£1,599.00

PC40/40
As for PC40/20 with 40 MB hard disk
£1,999.00

PC1 — One of the most compact PC's on the market. It uses the latest state-of-the-art technology that enhances reliability and save space. On board there is full colour graphics/video, 512K RAM, floppy drive controller and parallel and send interfaces.
The PC1 includes MSDOS 3.2 and a monochrome monitor as standard. Colour is an optional extra as well as the 8087 co-processor. **only £434.00**

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

DONT SPOIL YOUR CHRISTMAS - SEND FOR YOUR NEW ANCO CATALOGUE NOW !!!

C16/PLUS 4 Centre

4 WEST GATE HOUSE,
SPITAL STREET,
DARTFORD, KENT.

GAMES··BOOKS··UTILITIES··EXPANSION PACKS, JOYSTICKS··ADAPTORS··ALL YOU NEED FOR YOUR C16 OR PLUS 4 COMPUTER. NEW CHRISTMAS CATALOGUE HAS MANY SPECIAL OFFERS, — DON'T MISS IT!

CRL The Dream Makers

PROGRAMMERS

Over the last year the ZEN ROOM has produced some of Europe's top games, like TAU CETI, DRACULA, CYBORG, ACADEMY, DEATH OR GLORY, BALLBREAKER and THE ROCKY HORROR SHOW. Now Britain's most innovative software development team are looking for experienced freelance programmers to join them. If you have just written a game or are about to and would like the financial and programming back-up the ZEN ROOM can offer contact Michael Hodges on 01-985 2391 or write to the ZEN ROOM, Unit 7D, Kings Yard, Carpenters Road, London E15

THE ZEN ROOM

A DIVISION OF CRL GROUP PLC

CRL The Dream Makers

RAMSOFT — FOR EVERYTHING AMIGA

AMIGA JOYSTICKS

ECONOMY — Standard, robust at an economical price £5.95p
SLIK STICK — Compact, handy size with ball-top handle £6.95p
STARFIGHTER — Hundreds of thousands sold, durable and popular £8.95p
QUICKSHOT II — 'Turbo' -pistol grip, 2 handle to buttons & autofire £13.95p
TAC 5 — Uses microswitches for fast, smooth response £14.95p
PRO AUTOFIRE — 2 fire buttons with microswitches & autofire £19.95p

AMIGA DISK DRIVES

CUMANA 1Mb — 1 megabyte unformatted capacity, that allows 800Kbyte of storage space when formatted £134.95p
COMMODORE A1010 — same specifications as above £279.95p
TRIANGLE 1Mb — specifications as above, plus very small in size, supplied with extra long cable £134.95p

AMIGA BOOKS

AMIGA ROM KERNEL: LIBRARIES & DEVICES £33.00p
PROGRAMMERS GUIDE TO THE AMIGA £24.95p
AMIGA PROGRAMMERS HANDBOOK Vol 2 ..... £24.95p
AMIGA DISK OPERATING SYSTEM (DOS) MANUAL £24.95p
AMIGA INTUITION REFERENCE MANUAL £23.50p
AMIGA ROM KERNEL: EXEC £23.50p
AMGIA HARDWARE REFERENCE MANUAL £23.50p
PROGRAMMING THE 68000 ..... £22.95p
AMIGA PROGRAMMER'S GUIDE £14.95p
AMIGA APPLICATIONS £14.95p
INSIDE AMIGA GRAPHICS £14.95p

★★ Bi-Monthly ★★ ★★ Special Offers ★★

AMIGA LANGUAGES AND ASSEMBLERS

APL 6800 ..... £84.95p
DEVPAC (Assembler/Editor) £49.95p
LATTICE C V3.10 ..... £129.95p
MCC PASCAL £69.95p
METACOMCO TOOLKIT ... £30.95p
SAM BASIC (Multi-Tasking). £94.95p
CAMBRIDGE LISP £114.95p
K-SEKA £59.95p
MACRO ASSEMBLER ... £65.00p
METACOMCO SHELL ... £38.95p
MODULA-2 STANDARD ... £89.95p
TRUE BASIC £64.95p

AMIGA PRODUCTIVITY

SUPERBASE PERSONAL .. £84.95p
PAGE SETTER £99.95p
VIP PROFESSIONAL ... £124.95p
WORD PERFECT 4.1 ... £249.95p

SOFTWARE NOT LISTED/ENQUIRIES TELEPHONE 0706 43519 (after 1pm please)

Postage and Packing is FREE in U.K., OTHERWISE ADD £2 per item ABROAD
SEND CHEQUE/P.O./STERLING/TRANSCASH to:- RAMSOFT, 24 Bankfield Lane, Norden, Rochdale, Lancashire, OL11 5RJ. (England).

THE OXFORD BRIDGE PROGRAM VER.2

Improved version of the unique rubber/duplicate bridge simulation for the Commodore 64/128

FEATURES INCLUDE:

- ★ Computerised bidding, contract play and defence, with any number of players participating.
- ★ New improved bidding program uses the well known 'ACOL' standard plus Blackwood, Stayman and other common conventions.
- ★ Increased speed of play — up to 50% faster.
- ★ Rubber and duplicate bridge play.
- ★ Full scoring capability*
- ★ Review of cards played.
- ★ Hand replay with contract selection.
- ★ Storage and retrieval of hands from disk/tape.
- ★ Hands dealt randomly or entered from keyboard.
- ★ Printer option helps keep hands hidden from opponents view.

*Full duplicate scoring — disk version only.

The OXFORD BRIDGE PROGRAM is an all round bridge simulation for beginners and experienced players alike. Beginners will enjoy learning this fascinating game at their own pace, either alone or with one, two or three other players, the computer playing the other hands. Club players will find the program an excellent tool to sharpen up their bidding systems between matches. It is easy to play and replay interesting hands against computerised opponents, comparing scores using the unique duplicate mode. For all players, the OXFORD BRIDGE PROGRAM is packed with features and enhancements.

THINKING GAMES
Noel House,
19 Newton Road,
Faversham
Kent
ME13 8DZ
Tel: (0795) 534708

ORDER FORM

Please send my copy of The Oxford Bridge Program on tape/disk* to:
(PLEASE PRINT)

Name .....
Address .....
.....
Postcode .....
Tel: .....

I enclose payment of £ .....
(Tape £29.95; Disk £34.95)
Please add £2.00 for postage and packing
*delete as appropriate

CCI READERS OFFER!

Never to be repeated opportunity to acquire some of the best productivity products designed for the 64 or 128, *at unbelievable prices. Save up to 57% of the R.R.P.* Timeworks Word Writer, Data Manager, and Swiftcalc can be run as stand alone or each package can be interfaced with the others. Also on offer is Timeworks "Partner" cartridge based accessory. All products come complete with manual and hot line support number both provided to ensure maximum use of the products.

SAVE 50%!

TIMEWORKS OUTSTANDING PRODUCTIVITY PACKAGES

Word Writer (disk only)

A powerful, complete easy to use word processing system featuring:-

C64 version offers

- ☐ Move/Copy, Search & Replace, Invest, Delete, Formatting, Auto Wordwrap, Indenting, Tabbing, Auto Page Number, Document Chaining, Centering, Form Letter, Calculation, Merging, Page Skip, Vertical & Horizontal Scrolling, 30 Sample Files, File Conversion, Colour Control, Disk Catalogueing
- ☐ 2 overlays for C64
- ☐ Label/Name — Address Production form listings etc when interfaced with "Data Manager"
- ☐ Spell Checker of 85,000 words and unlimited Sub Directories
- ☐ Thesaurus of 60,000 synonyms
- ☐ Fully featured manual
- ☐ Hot line support

128 Version has all the above plus fully supports 80 Column Screen and more powerful features

RRP 64 £49.95 128 £69.95

Swiftcalc (disk only)

Powerful easy to use spread sheet ideal for home or business use.

C64 Version features include

- ☐ 250 rows by 104 columns to provide over 25,000 cells
- ☐ Maths to 12 digits
- ☐ NPV, NFV, min/max values: averages, sums, integers, absolute and exp notation
- ☐ Bar Charts
- ☐ "What if" calculation
- ☐ 2 Keyboard Overlays
- ☐ SIDEWAYS option rotates the spread sheet 90° so that it can be produced vertically with all columns rather than horizontally
- ☐ Fully featured manual
- ☐ Help Line support

128 Version has all the above plus

- ☐ Full 80 column support
- ☐ Pull down menus
- ☐ 250 rows and 250 columns providing 62,500 cells
- ☐ More maths function

Both 64 and 128 Versions will interface with the appropriate version of Data Manager and Wordwriter

RRP ——— 128 £69.95

Partner

A cartridge-based product with eight memory resident desk top accessories that operate "concurrently" with the existing program. When used Partner suspends the program in operation, lets you use the Partner accessory and then returns you to the point where you interrupted.

The accessories are:-

- ☐ Appointment Calendar and Date Book
- ☐ Name, Address and Phone List ☐ Memo Pad
- ☐ Auto Dialer (to be used with auto dial modem)
- ☐ Calculator with option to print out ☐ Typewriter
- ☐ Envelope Addresser and Label Maker
- ☐ Screen Printer — allows screen dumps (not graphics)

NB not for use with other plug in cartridge programs nor SX 64

RRP 64 £59.95 128 £69.95

Data manager (disk only)

a complete information Storage/Retrieval system with Report Writing, Graphics, Statistics and Label Making capabilities.

C64 Version features include

- ☐ Access to data by name, index code. data range, amount range or any defined category
- ☐ Fast Search and Sort features using Timework exclusive X-SEARCH and X-SORT
- ☐ X-CHART and Bar Chart features
- ☐ Label production features
- ☐ Fully featured manual ☐ Hot Line support

128 Version has all the above plus

- ☐ Full 80 column support ☐ Pull down menus
- ☐ Full User prompting and password protection

RRP 64 £39.95 128 £69.95

ORDER FORM

To: Commodore Computing International
40 Bowling Green Lane, London EC1R 0NE

Please send me:

	For 64 disk	For 128 disk
DATA MANAGER	☐	☐
WORDWRITER	☐	☐
SWIFTCALC	☐	☐
PARTNER	☐	☐

I enclose my cheque/PO for *£_____ made payable to CROFTWARD LTD or debit my Access A/c No

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signed _____ Expiry Date _____

Add P+P (insurance) at .50p per item UK or £1.00 per item outside UK

	64	128
Any 1 item	£30 ___	£40 ___
2 items	£56 ___	£75 ___
3 items	£79 ___	£99 ___
All 4 items	£99 ___	£120 ___
P&P	___	___
	___	___

NAME: _____

ADDRESS: _____

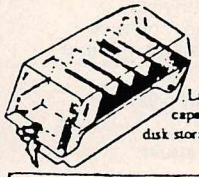
_____

TEL NO: _____

ALLOW 28 DAYS FOR DELIVERY

COMMODORE MAGENTA PAGES

FREE



Large (100 disk capacity) lockable disk storage box worth £13.95 –

CATALOGUE ! Send 50p (or 30p with order). Refundable.

HIGH QUALITY JAPANESE HIGRADE

5.25" DS/DD disks

Large storage case totally FREE with the following quantities of high quality Japanese disks—

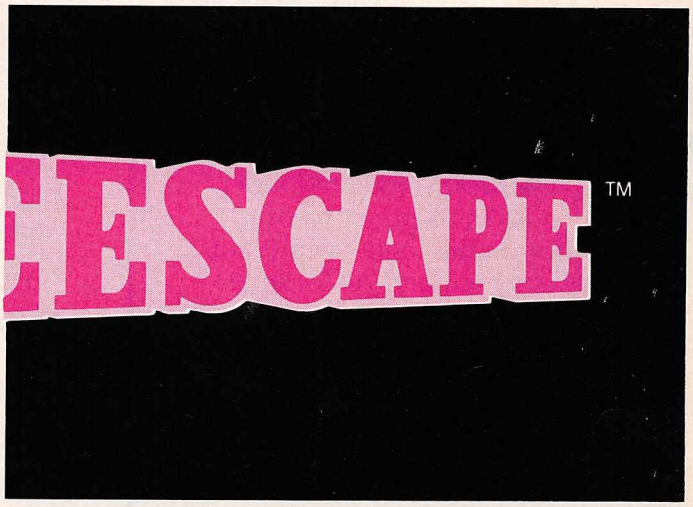
25 disks. . . £18.75
50. . . . . £28.95
100. . . . . £49.95
150. . . . . £73.95
250. . . . . £119.95

Nebulae, Dept MC FREEPOST, Kilroot Park Industrial Estate, Carrickfergus, Co. Antrim, BT38 7BR
Telephone (09603) 51020 (Monday to Friday 9 to 5)
7 Day delivery and 14 day money back period.
We accept orders from all government bodies, schools, universities, PLC's etc.
We despatch on receipt of an official purchase order.

ORDER BY PHONE FOR SAME DAY DESPATCH

Tel: (09603) 51020

FREEPOST YOUR ORDER TODAY – NO STAMP REQUIRED



ROCK BOTTOM DISKS

The Lowest Quality Disk prices in the U.K.
(Lifetime Guarantee)

Plain Label 5.25in Disks by Wabash

5¼in DS/DD 48 tpi	5.50	11.00	20.00	38.00	75.00	Call
5¼in DS/DD 96 tpi	6.00	11.50	21.80	39.50	77.50	Call

Disk Box for 10 £1.30

Plain Label 3.5in Disks by Wabash

3.5in SS/DD 135 tpi	10.95	31.40	49.90	94.30	177.68	Call
3.5in DS/DD 135 tpi	11.25	32.00	52.90	100.00	189.18	Call

Disk Box for 10 £1.30

Branded Warbash Datatech 3.5in DS/DD £15.00 box of 10

All disks supplied with lables 4 (5¼ also with sleeves)
No quibble 14 day money back guarantee and lifetime guarantee
ALL PRICES INCLUDE VAT & p.&p. (UK Only)
Official Govt./Educational/Company/Export & Credit Card Orders Welcome
CREDIT CARD HOTLINE: 0329 282083

Cheques/P.O. to:

ATHENE CONSULTANTS

33 Holly Grove, Fareham, Hants. PO16 7UP. Tel: 0329 282083

AT LAST

COMMODORE SPARES

AT DISCOUNT PRICES

CIA 6526	£11.95	ROM 901227-03	£14.99
MPU 6510	£11.99	ROM 901225-01	£9.99
PLA 906114-01	£9.99	SOUND 6581	£14.99
ROM 901226-01	£9.99	RAM 4164	£2.49

C64 POWER SUPPLY UNITS £19.99

All prices include post & packing, handling and VAT — send your faulty computer and P.S.U. for estimate and repair from £9.99 + parts + VAT.
Spare also available for Vic 20, C16 +4, 64C, C128, Spectrum, +, 128, +2 an Amstrad computers.
SEND CHEQUE/P.O. ACCESS/VISA CARDS WELCOME

ELECTRONIC SERVICES

176 VICTORIA ROAD WEST, CLEVELEYS, BLACKPOOL FY5 3NE. Tel: (0253) 822708

Send large SEA for full list of printers, modems, computers, spares and accessories at discount prices.

NOBODY GET RICH OVERNIGHT . . . BUT *ANYBODY* CAN IN TIME

When I started my own business in 1984, I had virtually nothing. Now, 3 years later, 10 sound companies are mine. The last one established by the way, already gained a turnover of more than £3000 the first few weeks! And you know what? I only took me about £200 to do so.
Just like other helped *me* on my way up. I want to help *you* take the first step on the success ladder. Step by detailed step, I will guide you in establishing a solid computer-operated business of your own, capable of giving you £25,000 or more per year.
From a simple type-setting service to a collection agency and other business plans in and between. Unique opportunites that can be implemented on strictly a part-time basis, within the privacy and comfort of your own home, by means of your computer, and with little or no investment.
Everything you need to know is handed out to you, ready to start! How to begin, marketing techniques, who and where your customers are, running your thriving business; all necessary data will be published in Computin' Wealth-Builders Monthly. I leave it up to you to open your door to prosperity . . . or keep it closed.

Maria E.P. Theebe
Executive Director
ITC Financial Publications

itc
For Personal Success

FIRST UK ISSUE OVER 2500 IN PRINT

YES, I want all of this valuable information, data, facts, plans and programs at my fingertips every month. So enter my one year subscription (12 full issues) to Computin' Wealth-Builders THE MOST SIGNIFICANT NEWSLETTER FOR SERIOUS, COMPUTING FORTUNE-MAKERS
Enclosed is £25.00.

Name .....

Address .....

..... Country.....

() Cash () Check

Credit card orders welcome:
Visa/Barclay, Mastercard/Access/Eurocard, American Express & Diners Club

() Charge my credit card No. .....

Signature ..... Expiration date.....

ITC Financial Publications
Franklinstraat 5, 1221 HA Hilversum, Netherlands
P.O. Box 414, 1200 AK Hilversum, Netherlands
ISSN 0921-0407

BONUS OFFER Free "valuable start-up business facts" Special Report. An all-time £20.00 of regular subscription price (£45).

Whilst all reasonable precaution is taken to ensure advertisers are bona fide, CCI takes no responsibility for any misrepresentations or inaccuracies in advertisements or for any breaches of obligations by advertisers. Readers are recommended to take appropriate professional advice before entering into obligations.

COMPUTER REPAIRS

BUSINESS SYSTEMS — HOME COMPUTERS

AMSTRAD - APPLE - ATARI - BBC - COMMODORE - IBM PC's - OSBORNE - EPSON - SINCLAIR SPECTRUM QLs - SEIKOSHA

COMPUTERS - FLOPPY DISKS - PRINTERS UPGRADES - MODIFICATIONS - FIELD SERVICE

For further details phone

SLOUGH 21391 or contact

TRIDENT ENTERPRISES LTD
Unit 2 Wentworth Industrial Court, Goodwin Road, Britwell, Slough, Berks, SL2 2ER.

HEATH COMPUTERS & ELECTRONICS LTD.

We specialise in Commodore Repairs
Also BBC's

★ FAST TURNAROUND ★
★ FIXED PRICE REPAIRS ★
★ ★ ALSO SELL SPARES ★ ★

Tel: Birmingham (021) 771 3636

NU-MON 64

★ Full Two Pass Assembler
★ Monitor ★ Disk Monitor
★ All in one easy to use program that only uses 1K of Basic memory. All for only **£4.99** inclusive.

Tape or Disk, Cheques/P.O.s to:—

NU-SOFT
201 GOODISON BOULEVARD, DONCASTER, S. YORKS DN4 6EJ

NEOS?

YOU NEED THE MOUSE PLUS

Enables you to use the mouse and keyboards together. Can be left connected all the time – includes a disc containing the mouse menu. Amiga style pull down menus while you programme. Two mouse drivers for your own programmes and D cheese mod. Full menualsupplied. Let your C64 use the whole power of the mouse. Does not damage the keyboard.

Send £19.95 to:
or phone for more details
Shazaan Systems
8 Alma Close, Knap Hill, Woking, Surrey.
Tel: 04867 89098

A precision graphics utility for
Designers
Architects
Hobbyists

★ Create, manipulate, combine, compare fill, patterns and multiple sheet drawings

★ Fast and secure archival and retrieval of drawings

★ Mostly single keystroke commands

For use with disk-drive and dot-addressable printer
£29 plus VAT

Culton Sales and Services Ltd.
34 Mount Street, Dorking, Surrey RH4 3HX
Tel: (0306) 885138

---

128 USERS CLUB

★ International PenPal List ★ Quarterly Magazine
★ Public Domain Software ★ Software Data Base

For More Details Write to:—

Brampton, Croome Road, Defford, Worcs. WR8 9AR.

JOKES

FREE
Britain's No: 1 Joke Catalogue packed with over 500 practical jokes from 5p
Stink bombs, Whoopee cushion, wobbly lager glass, laxative tea bags, smoke bombs, willie sugar, cigarette bangers, joke blood, sick, mess, soap sweets, wet jokes, exploding jokes, magic tricks, party fun kits, masks, make-up, sea monkeys, girl strip pens, adult party packs, saucy novelties, naughty presents, posters, badgers, the complete Joke Shop by Post.
Send 13p stamp with your name and address for bumper colour catalogue and free Gift to:

MATCHRITE, THE FUNNY BUSINESS
(Dept CCI 167 WINCHESER ROAD, BRISTOL BS4 3NJ.

AMIGA OWNERS

For details of disconnected software, blank disks, accessories and library facilities,
Send S.A.E. to
DEPT CCI
The Software Club
26 BEECHLEY DRIVE
CARDIFF CF5 3SN

---

*TEACHERS ****** STUDENTS*

NEW RANGE OF EDUCATIONAL SOFTWARE AVAILABLE FOR COMMODORE 64/128 USERS

GEOGRAPHY - 3	BIOLOGY - 1	DISK - 10.95
BUSINESS ORGANISATION - 1	BIOLOGY - 2	
BUSINESS ORGANISATION - 2	PHYSICS - 1	
CHEMISTRY - 1	PHYSICS - 2	
CHEMISTRY - 2	GEOGRAPHY - 1	TAPE - 8.95
	GEOGRAPHY - 2	

PRICES INCLUDE P & P . MAKE CHEQUE'S PAYABLE TO SOFTWARE HORIZIONS
VISA CUSTOMERS WELCOME
SOFTWARE HORIZIONS:THE MALL:MAIN ST
WICKLOW TOWN:CO WICKLOW :REP OF IRELAND
PHONE 0404-69245

FORTH AND LISP FOR THE C64 AND C128

These languages are available as 16K ROM Cartridges
S-forth £24 90 S-lisp £32 90
LETCHWORTH SOFTWARE
45 Swift Close, Letchworth, Herts
SG6 4LL Tel (0462) 675305

AMIGA

PUBLIC DOMAIN SOFTWARE

We have the very latest Fish, #1 to #88, and Amicus, #1 to #22, disks in stock. For full details of program content PLUS Tutorial 'PD Without Tears' PLUS the JUMPDISK Magscan PLUS a collection of programs and articles from previous issues of JUMPDISK. Please send a £3.50 cheque/PO for the 'JUMPDISK DEMO'. We will send a copy by return.

George Thompson Services Ltd.,
Old Reigate Road,
Betchworth, Surrey RH3 7DR
Tel: 073-784 4675

MAKE YOUR COMMODORE EARN!

Do you want something more than the usual boring game? This is most certainly for you. Don't just play at life, become part of it by starting your own home based business. Full or part time.
For FREE details S.A.E. to:
Mr G McGovern
97 Pilton Place, King and Queen Street,
Walworth, London SE17 1DR

Heard the Buzz? . . . See Comm. User, July issue
At last, the exciting computer game for
SPEEDWAY FANS

'League Cup Knockout'

for the Comm. 64/128

★ 12 teams to choose from, with all current riders.
★ Riders points, averages, injuries ★ Coloured moving graphics

Please state team you support (British Lge or National Lge)

Cheques/Postal Orders to:
ET SOFTWARE
64 Montrose Avenue
Lillington, Leamington Spa
Warwickshire CV32 7DY

TAPE VERSION £5.50
DISC VERSION £6.50

Please add extra £1 for overseas postage

COMMODORE 64

COMPUTER GAMES -
TRY BEFORE YOU BUY

★ One week's review
★ Latest titles
★ Lowest rates
★ Fast postal service
★ Free membership
★ American titles
★ Free review offer

Contact:
MICROGAME
ADDRESS:
12, ST17 9RS

COPY DEALINE FOR CCI January: NOVEMBER 9th

Advertisements are expected to conform to rules and standards laid down by the Advertising Standards Authority. Most do. The few that don't we'd like you to write in about.
And if you'd like a copy of these rules for press, poster and cinema advertisements, please send for our booklet. It's free.

The Advertising Standards Authority.
We're here to put it right.

ASA Ltd, Dept Y, Brook House, Torrington Place, London WC1E 7HN.
This space is donated in the interests of high standards of advertising.

Whilst all reasonable precaution is taken to ensure advertisers are bona fide, CCI takes no responsibility for any misrepresentations or inaccuracies in advertisements or for any breaches of obligations by advertisers. Readers are recommended to take appropriate professional advice before entering into obligations.

LAN COMPUTER SYSTEMS LTD

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

APPLICATIONS SOFTWARE TOP TEN

Deluxe Music Construction Set	**£74.95**
Cambridge Lisp	**£99.95**
Delux Video	**£69.95**
Lattice C Compiler	**£169.95**
Vizawrite Wordprocessor	**£79.95**
Aegis Animator Graphics package with Images	**£79.95**
Digiview Digitising package	**£189.95**
Maurauder II. New version of the famous disk copier	**£29.95**
Aegis Sonix — music development system	**£69.95**

DELIVERY FREE OF CHARGE

LEISURE TOP TEN

• Portal, Kings Quest II, Tass Times	**£49.95**
• Music Studio, Shanghai, Basketball	**£39.95**
• Sports Holder, American Football, Baseball, Golf	**£44.95**
• Marble Madness	**£15.95**
• Terrorpods	**£21.95**
• Basketball	**£14.95**
• Bards Tale	**£15.95**
• Defender of the Crown	**£21.95**
• Firepower	**£19.95**
• Star Glider	**£18.95**

ACCESSORIES TOP TEN

• Box of 2000 sheets of paper	**£19.95**
• Printer stand	**£14.95**
• Amiga joystick	**£13.95**
• Custom monitor stand	**£19.95**
• Peripheral Interchange Adaptor Unit	**£24.95**
• Disc box with 20 D.S. 135 TPI 3.5in disks in lockable storage box	**£39.95**
• Dust cover for A500	**£5.95**
• Storage box — capoacity for discs	**£14.95**
• Disc box with 50 96 TPI 5.25in discs in lockable storage box	**£29.95**
• Amiga printer cable	**£14.95**

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

LAN COMPUTER SYSTEMS LTD

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

★ STAR BUYS ★

PRINTER

STAR NL10 DOT MATRIX

120 cps in draft mode with 30 cps in Near Letter Quality. Tractor and friction with auto single sheet feed. Choice of C64/128 or Amiga interface. FREE PRINTER STAND. FREE PAPER.

£189 + VAT

MONITOR

PHILIPS 8833

Medium resolution colour monitor with stereo sound. Includes FREE monitor cable.

£219 + VAT

DISC DRIVE

CUMANA CAX354

A beautifully designed external drive for your Amiga at a most attractive price. **FREE** ten 3.5in. discs.

£109 + VAT

DELIVERY ON STAR BUYS **£8.00**

ACCESSORIES

External 2nd Drive with box of 10 Disks	**£249.00**
LAN External 2nd Drive with box of 10 Disks	**£129.00**
T.V. Modulator	**£21.00**
515K RAM Expansion	**£99.00**
Monitor Stand especially designed for Amiga computer	**£15.00**
Colour Monitor cable	**£15.00**

Accessory Package:
512 RAM Expansion/LAN external 2nd Drive
£249.00 inc. VAT and delivery

1 MB RAM card with real time clock for Amiga A100	**£299.00**

PRINTERS

EPSON LX800	**£199.00**
STAR NB2415	**£699.00**
STAR NB2410	**£434.00**
QMS Laser	**£1,549.00**
PANASONIC 1081 80 col., 127 cps, 24NLQ	**£145.00**
PANASONIC D1592, 180 cps, 38NLQ, 136 col.	**£299.00**
CANON PW1080A Dot Matrix	**£219.00**
CANON A55 Dot Matrix	**£399.00**
CANON Laser	**£1,599.00**
CANON A60, 18 pin	**£399.00**
CANON A65, 136 col.	**£449.00**
JUKI 6100 Daisywheel	**£279.00**
MP165 Dot Matrix	**£169.00**
MP26 Daisywheel	**£199.00**
STAR NB24-10	**£415.00**
STAR NB24-15	**£519.00**

COLOUR PRINTERS

CANON PJ1080A	**£429.00**
INTEGREX COLOUR	**£449.00**
XEROX 4020	**£999.00**

MONITORS

PHILIPS 7502 Hi Res Green	**£69.00**
PHILIPS 7522 Hi Res Amber	**£79.00**
PHILIPS 8833 Med Res Colour	**£239.00**
PHILIPS 8852 Colour 700/285	**£259.00**
PHILIPS 8873 Colour 850/480	**£499.00**
ZENITH 1230 Hi Res Green	**£69.00**
ZENITH 1220 Hi Res Amber	**£69.00**
TAXAN 620 Colour	**£287.00**

ACCESSORIES

Printer Stand	**£15.00**
Box of ten ½in Disks in plastic library case	**£16.95**
Box of ten 5¼in Disks in plastic library case	**£8.65**
Box of hundred 3½in Disks in lockable storage box	**£149.00**
3½in lockable box 100 capacity	**£10.00**
5¼in lockable box 100 capacity	**£10.00**
Joystick for Amiga	**£12.00**

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

Commodore 128 Users....

GEOS 128	49.95
HackPack 128	18.95
Oxford Pascal 128	18.95
PetSpeed 128	18.95
Micro Clerk	79.95
CAD Pack (Abacus)	29.95
Chart Pack (Abacus)	29.95
Cobol 128 (Abacus)	29.95
Super C (Abacus)	39.95
Super Base 128	39.95
Super Script 128	39.95
Disc Utilities Pack	8.95

The 1750 RAM Expansion Module s a plug in cartridge which adds a total of 512K to the Commodore 128 giving an impressive 640K. All 512K is accessible from within BASIC when RAMDOS is used to turn the RAM module int a lightning RAM-DISK. RAMDOS will load a 50K program in 0.5 seconds. The RAM-DISK as 2048 Blocks Free.

1750 Expansion Module with RAMDOS 164.95

The Big Blue Reader.

New from S.O.G.W.A.P. Software Inc., The Big Blue Reader allows you to transfer files generated on most IBM-Compatible (MS-DOS) software to all three operation modes of the Commodore 128 and vice versa. Thus, files can be transferred to or form MS-DOS, 128 and CP/M disk formats, with optional ASCII translation.

You may no longer be discouraged because your C128 is not MS-DOS disk compatible, or that your C128 CP/M disks are not industry standard. The program, which runs in C128 mode, is available for 29.95 by mail order. ***Detailed information is availabel on request.***

- Formats MS-DOS disks.
- ASCII to Pet ASCII translation
- On screen view.
- MS-DOS disk backup.
- Works in 40 or 80 column display.
- CP/M formatting utility.

New 3½" Disk Drives.

The NEW Commodore 1581 disk drive is *now available,* as reviewed in this edition of CCI. The NEW 3½" disk drive is compatible with the Commodore 128, 64C, Plus/4 and C16. ***Read the CCI review or write for more detailed information.***

- 808K Formatted capacity.
- Double Sided/Double Density.
- Allows sub-directories.
- Disk utilities included.
- 8,000 CPS on the 128.
- 296 files per disk.
- MFM Format.
- 1 Year warranty.

Now Available for only 199.95

Send Cheque/Postal Order or write for more information to:-
Financial Systems Software Ltd, 2nd Floor, Anbrian House,
St. Marys Street, Worcester, WR1 1HA.
Telephone: (0905) 611463
(Overseas orders please add 2.50. Please allow upto 14 days for delivery)

All Prices Include VAT and Postage and Packaging.

Access VISA

BYTEBACK

THE AMIGA SPECIALIST

BEST PRICES *FASTEST* DELIVERY!

GAMES	ONLY
Earl Weaver Baseball	£18.50
Marble Madness	£22.50
Arctic Fox	£15.00
Goldrunner	£18.50
Archon + One on One	£15.00
Chessmaster 2000	£18.50
Skyfox	£11.50
Swooper	£15.00
Starglider	£18.50
Amiga Karate	£15.00
Space Battle	£7.50
Phalanx	£7.50
Demolition	£7.50
Crunch Factory	£7.50
Challenger	£7.50
Barbarian	£18.50
Super Huey	£15.00
Karate Kid II	£18.50
Hollywood Poker	£15.00
Archon II	£22.50
Flight Simulator 2	£45.00
Silent Service	£18.50
Basketball	£18.50
GFL Football	£18.50
Baseball	£18.50
Golf	£26.50
Shanghai	£18.50
Winter Games	£18.50
World Games	£18.50
Leaderboard	£18.50

UTILITIES AND BUSINESS	ONLY
MiAmiga Ledger	£79.00
Scribble 2	£79.00
Pagesetter	£119.00
Laserscript	£36.00
Goldspell	£36.00
Superbase Personal	£79.00
PCLO Junior	£184.00
PCLO	£159.00

LANGUAGES	ONLY
MCC Pascal	£71.00
Lattice C	£127.00
Cambridge Lisp	£119.00
MCC Toolkit	£31.00
MCC Shell	£39.00
MCC Assembler	£52.50
Modula 2 Standard	£79.00
Modula 2 Developers	£119.00
Micro APL	£184.00
Absoft A/C Fortran	£236.00
Absoft A/C Basic	£156.00
K Seka	£64.00

ADVENTURE AND STRATEGY	ONLY
Bards Tale	£18.50
Faery Tale	£37.50
King of Chicago	£22.50
Sinbad	£22.50
Seven Cities of Gold	£11.50
Defender of the Crown	£22.50
Kings Quest III	£22.50
Deja Vu	£22.50
Uninvited	£22.50
Balance of Power	£22.50
SDI	£22.50
The Pawn	£18.50
Guild of Thieves	£18.50
Mindshadow	£18.50
Borrowed Time	£18.50
Tass Times in Tone Town	£18.50
Portal	£26.50
Hacker	£18.50
Hacker 2	£18.50
Deadline	£22.50
Enchanter	£22.50
Moonmist	£26.50
Spellbreaker	£22.50
Leather Goddesses	£22.50
Hitchhikers Guide	£22.50
Hollywood HiJinx	£22.50
Witness	£22.50
Seastalker	£22.50
A Mind Forever Voyaging	£26.50
Sorcerer	£22.50
Beaurocracy	£22.50
Infidel	£22.50
Planetfall	£22.50
Starcross	£22.50

ART AND MUSIC	ONLY
Instant Music	£18.50
Aegis Animator + Images	£96.00
Aegis Images	£39.00
Aegis Impact	£79.00
Aegis Draw Plus	£239.00
Aegis Art Pack 1	£36.00
Aegis Sonix	£64.00
Dynamic CAD (v 2.3)	£396.00
Deluxe Paint 2	£52.50
Deluxe Print	£18.50
Deluxe Music Con. Set	£52.50
Deluxe Video	£89.00
Pagesetter	£119.00
Laserscript	£36.00
Goldspell	£36.00
Graphicraft	£45.00
Music Studio	£26.50
Paintworks	£26.50

UTILITIES AND BUSINESS	ONLY
Amiga A500	£475.00
A520 Modulator	£24.00
A1081 Colour Monitor	£345.00
Amiga A500 + Modulator	£490.00
Amiga A500 + A1081 Colour Monitor	£810.00
A 1010 Disk Drive	£239.00
A501 512k RAM Expansion	£99.00
Digi-View	£175.00
Star NL10 Printer	£225.00
Star NB15 Printer	£799.00
10 Double Sided Disks	£12.00

★ Plus Large Selection of Joysticks, Moust Mats, Covers etc.

ALL PRICES INCLUDE VAT AND FIRST CLASS POST
TELEPHONE (0636) 79097 FOR PERSONAL ASSISTANCE
Send Cheque/PO to:

BYTEBACK Dept. CCI. 6 Mumby Close
Newark, Notts. NG24 1JE

Program

CRIB 128

G. Cattley and A. Eskelson

This is an excellent game. It plays very well and makes excellent use of the 128.

This program is best suited for use with disks but it will work with tape. If you are a tape user then you should set the flag in line 230 to zero, so the line should read DK=0. This will make the program skip the test for the disk file of the machine code and force the data segments to be read every time the program is run. This will take about 70 secs. Note that the program reads the data in FAST mode so the 40 col screen will blank.

The program is long and has a large amount of data segments in it that set up the machine code. These data statements are protected with a CRC error checking system so the machine code parts of the program will be correct when entered. Once the program has been typed in and run, it will look for a disk file to BLOAD into the memory, this is the machine code that the program requires. If the file is not found the program will start to read the data statements and will then BSAVE the machine code to disk. The reason for this is that reading and poking the data statements is quite a slow process compared with BLOAD.

The graphics and the screen are set up and the crib board is drawn and the game will proceed normally, with the exception that the computer will do all the dealing and scoring for you. A list of the sections of the programs along with their functions is given here, that may prove useful in debugging the program of typing errors.

Just to add some interest, if you are using disks the program keeps a file of the number of games won by the human and computer and is displayed at the end of each game. The playing time of each game is about 20 mins. There is some sound included in the program, but it is very simple and is only used when you try to 'cheat'. It was decided that the computer plays a mean enough game without you having a lot of distracting sound effects going on. You will need all the skill that you have just to stay even!.

CRIBBAGE 128

The game of Cribbage is very old and is a game for two players. This program allows you to play against the computer, there are several versions of the game of Crib that are played, five card and seven card. This program is the six card version. The objective of the game is to reach the score of 121 before the computer, and that is not an easy task!. There are regional variations in the game, mainly in the naming of the plays ie. the terms Crib and Box mean the same thing, they are the discarded cards that will score to the dealer at the end of the play. In this region the term Box is used.

The program will perform the task of scoring for both the computer and yourself so even if you do not have a good head for figures, you can still enjoy the game. However it is useful to the understanding of the game to know the rules. So a brief description of them is set out here. Remember the game may not be exactly the same as played in your region!.

The deck is cut for deal, the lowest card deals. Each player is dealt six cards, each player must discard two cards into the 'box' (sometimes known as the crib). The box is a second hand that scores for the dealer so the cards that are discarded must be carefully selected for the maximum benefit depending if it is your box or not.

Once the box has been set, the cards are cut again for the 'start' card. This is used in scoring. If the start card is a Knave then the dealer pegs two, known as TWO FOR HIS HEELS.

Play starts with the non dealer laying first followed by the dealer. The total pip value of all cards must not exceed thirty one. Aces count as one and all court cards count as ten. Pairs score two, three of the same score six and four of the same scores twelve.

If three cards laid down can be formed into a run then the player laying the third card scores three, for a four card run the score is four etc. The run can be in any order ie two, four, three. If the pip total of two or more cards add up to fifteen, the player of the last card scores two. Making a total of thirty one also scores two points. If a player is unable to lay a card without exceeding thirty one then the play passes to the other player. If neither player can lay a card without exceeding 31, the player who laid the last card will score one point. This is known as ONE FOR LAST.

Now that the two hands have been laid, the 'show' is performed, this involves scoring from the hand BUT including the start card so runs, fifteens, pairs etc all count. Flushes of four or more cards also count point for length. The non dealer scores the show first. The dealer scores his show in the same way and then he takes the box and scores that. The difference being that only five card flushes are allowed. If a hand or box contains a knave of the same suit as the start then one is scored this is known as ONE FOR HIS NOB.

100 — 280	setting up routines
300 — 310	load in machine code if on disk
320 — 490	CRC protected machine code reader
500 — 680	set up graphics
690 — 930	draw board
940 — 1000	set up peg sprites
1010 — 1130	set up cards and move pegs
1140 — 1460	cut for and sort out who deals
1470 — 1680	shuffle and deal
1690 — 1930	human card choice
1940 — 2130	sort humans cards
2140 — 2180	sort box
2190 — 2230	sort computers cards
2240 — 2390	cut for start card
2400 — 2780	play hands **** main part of game ****
2790 — 3040	update score file
3050 — 3150	check for computer valid lay subroutine
3160 — 3470	computer choice of cards to lay subroutine
3480 — 3770	human choice of cards to lay subroutine
3780 — 4540	peg during layout subroutine
4550 — 4620	last card subroutine

Program

```
100 REM              CRIBBAGE 128
110 REM (C) 1987, G.CATTLEY & A.ESKELSON
120 REM
130 FOR I=1 TO 4:SPRITE I,0:NEXT
140 REM MACHINE CODE CALLS
150 Q1=DEC("0B46"):Q2=DEC("0B4C")
160 Q3=DEC("0B70"):Q4=DEC("0B8C")
170 Q5=DEC("0B00")
180 FC=DEC("0B8B"):IV=DEC("0B8A")
190 FOR I=0 TO 6
200 Z(I+1)=DEC("1300")+I*3
210 NEXT I
220 REM DISK USERS SET DK=1
230 DK=0
240 FAST:BANK 0:SCNCLR:R=RND(0)
250 REM SET BACKGROUND COLOR
260 COLOR 0,14:COLOR 4,14
270 COLOR 1,2:COLOR 2,3:COLOR 3,1
280 GRAPHIC 3,1
290 TRAP 6810
300 IF DK THEN BLOAD"CRIB CODE",B0
310 REM SET UP CRC
320 IF DK=0 OR DS=62 THEN BEGIN
330 M1=Q5:MC=M1+9
340 FOR I=0 TO 59:READ Z
350 POKE M1+I,Z:NEXT I
360 REM DATA FOR CRC
370 DATA 169,0,133,250,133,251,133,252
380 DATA 96,133,252,162,8,165,250,42
390 DATA 38,253,42,42,42,42,42,69
400 DATA 253,133,253,165,250,69,253,133
410 DATA 253,165,251,42,42,42,69,253
420 DATA 133,253,38,252,42,69,253,106
430 DATA 38,251,38,250,202,208,214,166
440 DATA 251,165,250,96
450 REM READ IN MACHINE CODE
460 GOSUB 6580:BEND
470 IF DK=1 AND DS=62 THEN BEGIN
480 BSAVE"CRIB CODE",B0,P(Z(1)) TO P(SA)
490 BEND
500 REM DIMENSION STORAGE ARRAYS
510 DIM PT(15,6),CH(15),PS(15),TP(15)
520 DT=2
530 DEF FNA(A)=INT(RND(1)*A+1)
540 DEF FNB(B)=RSPPOS(B,1)
550 FOR I=1 TO 31:CS$=CS$+" ":NEXT
560 SYS Z(1):REM SET UP TABLES
570 REM COPY SPRITE 1 INTO SPRITES 2-4
580 SPRSAV 1,2:SPRSAV 1,3:SPRSAV 1,4
590 REM GET NUMBER OF GAMES WON
600 IF DK=1 THEN BEGIN
610 DOPEN#1,"CRIB WINS"
620 IF DS=0 THEN INPUT#1,GP(1),GP(2),GP
630 DCLOSE#1:BEND
640 REM SWITCH OFF TRAP
650 TRAP
660 SLOW:WIDTH 1:MU=3
670 B$="CRIBBAGE 128":TL=0
680 XL=0:YL=0:GOSUB 6120
690 REM DRAW CRIB BOARD
700 COLOR 1,1:COLOR 2,9:COLOR 3,10
710 DRAW 1,128,176 TO 128,16
720 DRAW 1,128,16 TO 157,16 TO 157,176
730 BOX 1,142,176,143,177
740 CIRCLE 1,142,172,15,15,100,250,0,1
750 BOX 1,130,18,141,42
760 FOR I=0 TO 4
770 BOX 1,133,21+I*4,134,22+I*4
780 BOX 1,137,21+I*4,138,22+I*4
790 NEXT I:PAINT 2,132,20,1
800 SSHAPE A$,130,18,141,42
810 GSHAPE A$,144,18
820 SSHAPE A$,130,18,156,42
830 FOR I=1 TO 5
840 GSHAPE A$,130,I*26+18
850 NEXT I
860 PAINT 3,144,178,1
870 SR$="11111111"
880 BK$=LEFT$(CS$,13):REM 13 SPACES
890 COLOR 1,2:COLOR 2,11:COLOR 3,1
900 B$=" PEG ":X9=127:Y9=0:GOSUB 6160
910 B$="YOU":X9=127:Y9=8
920 MU=1:GOSUB 6160
930 B$="ME":X9=146:Y9=8:GOSUB 6160
940 REM SET SPRITES AND MOVE OFF SCREEN
950 FOR I=1 TO 4:SPRITE 1,0
960 MOVSPR I,0,0:NEXT I
970 SPRITE 1,1,2,0,0,0,1
980 SPRITE 2,1,2,0,0,0,1
990 SPRITE 3,1,4,0,0,0,1
1000 SPRITE 4,1,4,0,0,0,1
1010 REM SETUP CARDS IN MX$
1020 NU$="A23456789TJQK":B9$=CHR$(211)+CHR$(193)
1030 B9$=B9$+CHR$(218)+CHR$(216):FOR I=1 TO 4
1040 C$=MID$(B9$,I,1):FOR J=1 TO 13
1050 MX$=MX$+MID$(NU$,J,1)+C$:NEXT J,I
1060 REM MOVE SPRITES TO TOP OF BOARD
1070 MOVSPR 1,289,69:MOVSPR 2,297,69
1080 MOVSPR 3,317,69:MOVSPR 4,325,69
1090 REM SPRITES COME ON DOWN
1100 FOR I=1 TO 4:MOVSPR I,180 $1:NEXT I
1110 GOSUB 5150:XL=0:YL=3
1120 FOR I=1 TO 4:MOVSPR I,0 $0:NEXT I
1130 GOSUB 6770:IF GP<>0 THEN 1380
1140 REM CUT CARDS TO SEE WHO GOES FIRST
1150 B$="LOWEST CARD DEALS
1160 XL=0:YL=5:GOSUB 6120
1170 B$="ACES ARE LOW"
1180 YL=YL+2:GOSUB 6120
1190 B$="MY CARD":YL=11:GOSUB 6120
1200 B$="YOUR CARD":X9=X9+20:GOSUB 6160
1210 R1=FNA(52)*2-1:R2=FNA(52)*2-1
1220 IF R1=R2 THEN 1210
1230 C1$=MID$(D$,R1,2):CD$=C1$
1240 XD=1:YD=13:GOSUB 6280
1250 H1$=MID$(D$,R2,2):CD$=H1$
1260 XD=10:GOSUB 6280
1270 CP$=LEFT$(C1$,1):HP$=LEFT$(H1$,1)
1280 REM TEST FOR TWO CARDS SAME VALUE
1290 IF CP$=HP$ THEN BEGIN
1300 B$="CUT AGAIN"
1310 XL=0:YL=22:GOSUB 6120
1320 SLEEP DT:L1=13:L2=22:GOSUB 6540
1330 BEND:GOTO 1210
1340 CP=INSTR(NU$,LEFT$(CP$,1))
1350 HP=INSTR(NU$,LEFT$(HP$,1))
1360 IF CP<HP THEN GP=1:ELSE GP=2
1370 XL=0:YL=22
1380 REM RESTART HERE FOR NEW GAME
1390 IF GP=1 THEN B$="MY DEAL":GOTO 1410
1400 B$="YOUR DEAL"
1410 GOSUB 6120:SLEEP DT:GOSUB 6510
1420 GOSUB 6770
1430 REM RESET COUNTERS
1440 CP=GP:CP(1)=0:CP(2)=0:DP=0:GW=0
1450 FOR I=1 TO 4:SP(I)=1:D(I)=0:NEXT I
1460 CHAR 1,30,24,"           ":REM 11 SPACES
1470 REM RESTART HERE FOR REST OF GAME
1480 GOSUB 6510:REM CLEAR LINES
1490 N$="MY":IF CP=2 THEN N$="YOUR"
1500 REM DEAL SIX CARDS EACH
1510 CP$="":HP$=""
1520 GOSUB 5160:REM SHUFFLE CARDS
1530 REM DEAL CARDS; SIX EACH
1540 FOR I=1 TO 11 STEP 2
1550 R1=2*I-1:CP$=CP$+MID$(D$,R1,2)
1560 R2=R1+2:HP$=HP$+MID$(D$,R2,2)
1570 NEXT I:D$=MID$(D$,25,LEN(D$))
1580 REM SORT CARDS INTO ORDER
1590 S1$=CP$:GOSUB 5290:CP$=S1$
1600 S1$=HP$:GOSUB 5290:HP$=S1$
1610 L1=2:L2=2:GOSUB 6540:TD=0
1620 REM DISPLAY CARDS
1630 FOR I=1 TO 6:R2=I*2-1:A=I
1640 YC$(I)=MID$(HP$,R2,2)
1650 GOSUB 6210:GOSUB 6280
1660 B$=RIGHT$(STR$(A),1):GOSUB 6120
1670 MC$(I)=MID$(CP$,R2,2)
1680 NEXT I
1690 REM GET HUMAN TO CHOOSE CARDS
```

```
1700 GET A$:IF A$<>"" THEN 1700
1710 B$="PUT TWO CARDS"
1720 XL=0:YL=22:GOSUB 6120
1730 B$="INTO "+N$+" BOX"
1740 YL=YL+1:GOSUB 6120
1750 GETKEY A$:A=VAL(A$)
1760 IF A<1 OR A>6 THEN 1750
1770 GOSUB6210:TD=1:GOSUB 6290
1780 BX$(3)=YC$(A):F1=A
1790 GETKEY A$:A=VAL(A$)
1800 IF A<1 OR A>6 OR A=F1 THEN 1790
1810 GOSUB6210:TD=1:GOSUB 6290
1820 BX$(4)=YC$(A):F2=A
1830 B$="ARE YOU SURE Y/N "
1840 XL=0:YL=24:GOSUB 6120
1850 GETKEY A$
1860 IF INSTR("YN",A$)=0 THEN 1850
1870 IF A$="N" THEN BEGIN
1880 A=F1:GOSUB6210:TD=3:GOSUB 6290:F1=0
1890 A=F2:GOSUB6210:TD=3:GOSUB 6290:F2=0
1900 BEND:L1=22:GOSUB 6530:GOTO 1710
1910 REM HUMAN ANSWERED YES
1920 A=F1:GOSUB 6210:TD=2:GOSUB 6280
1930 A=F2:GOSUB 6210:TD=2:GOSUB 6280
1940 REM COMPUTER CHOICE OF CARDS
1950 GC=121-CP(1)
1960 FOR I=1 TO 6:B$=MC$(I)
1970 W$=RIGHT$(B$,1):B$=LEFT$(B$,1)
1980 CA=INSTR(B9$,W$)*16+INSTR(NU$,B$)
1990 POKE Q1+I-1,CA:NEXT I
2000 SYS Z(3),GC
2010 REM REORGINISE HUMANS CARDS
2020 BX=0:FOR I=1 TO 6
2030 IF I<>F1 AND I<>F2 THEN BEGIN
2040 BX=BX+1:YC$(BX)=YC$(I)
2050 BEND
2060 NEXT I:IF CB=0 THEN CB=1
2070 REM GET COMPUTERS HAND
2080 RREG A6:A6=A6+Q5
2090 FOR I=0 TO 3:TP(PEEK(A6+I))=1:NEXT
2100 BX=0:FOR I=1 TO 6
2110 IF TP(I)=0 THEN BEGIN:BX=BX+1
2120 BX$(BX)=MC$(I):BEND
2130 NEXT I
2140 REM SORT BOX INTO ORDER
2150 W$=""
2160 FOR I=1 TO 4:W$=W$+BX$(I):NEXT
2170 S1$=W$:GOSUB 5290:FOR I=1 TO 4
2180 BX$(I)=MID$(S1$,I*2-1,2):NEXT I
2190 REM PUT COMPUTERS CARDS IN ORDER
2200 BX=0:FOR I=1 TO 6
2210 IF TP(I)=1 THEN BEGIN:BX=BX+1
2220 TP(I)=0:MC$(BX)=MC$(I):BEND
2230 NEXT:BX=0
2240 REM DISPLAY START CARD
2250 GOSUB 6510
2260 B$="CUT FOR START CARD"
2270 XL=0:YL=2:GOSUB 6120
2280 B$="START"
2290 XL=9:YL=10:GOSUB 6120
2300 R=FNA(LEN(D$)/2)*2-1
2310 ST$=MID$(D$,R,2)
2320 CD$=ST$:XD=7:YD=11:GOSUB 6280
2330 IF LEFT$(ST$,1)="J" THEN BEGIN
2340 N$="YOU":IF CP=1 THEN N$="I"
2350 B$=N$+" GET TWO FOR"
2360 XL=0:YL=20:GOSUB 6120
2370 B$="HIS HEELS":YL=YL+2:GOSUB 6120
2380 BEND:PT=CP:US=2:GOSUB 4690
2390 SLEEP DT::IF GW THEN 2760
2400 REM SET UP SCREEN TO PEG OUT HAND
2410 GOSUB 6510:FOR I=1 TO 4
2420 CV(I)=INSTR(NU$,LEFT$(MC$(I),1),1)
2430 HV(I)=INSTR(NU$,LEFT$(YC$(I),1),1)
2440 CD$=YC$(I):XD=(I-1)*3:YD=3
2450 GOSUB 6280:TD=4:YD=17:GOSUB 6280
2460 B$=STR$(I):XL=(I-1)*4+1:YL=2
2470 GOSUB 6120:NEXT I
2480 PC=0:TC=0:US=0:GOSUB 4440
2490 REM PEG OUT HANDS
2500 IF CP=1 THEN PT=2:ELSE PT=1
2510 H=4:C=4:REM CARD COUNT
2520 XL=16:YL=23:B$="TOTAL":GOSUB 6120
2530 REM MAIN CONTROL LOOP FOR PEG OUT
2540 DO:ON PT GOSUB 3050,3480
2550 REM TEST FOR BOTH HANDS CAN'T GO
2560 FL=(G1+G2=2) OR ((C=0) AND G2)
2570 FL=FL OR ((H=0) AND G1)
2580 IF FL THEN GOSUB 4550
2590 IF PT=2 THEN PT=1:ELSE PT=2
2600 REM LOOP IF ANY CARDS LEFT TO PLAY
2610 IF GW THEN EXIT
2620 LOOP WHILE (H+C)
2630 IF GW THEN 2760
2640 IF H+C=0 AND T1=0 THEN GOSUB 4550
2650 REM LAY OUT HANDS
2660 DP=1:BX=0:IF GW THEN 2760
2670 IF CP=1 THEN PT=2:ELSE PT=1
2680 GOSUB 5450:IF GW THEN 2760
2690 IF PT=1 THEN PT=2:ELSE PT=1
2700 GOSUB 5450:IF GW THEN 2760
2710 BX=1:GOSUB 5450:IF GW THEN 2760
2720 REM REST OF GAME
2730 SLEEP DT
2740 IF CP=1 THEN CP=2:ELSE CP=1
2750 GOTO 1470
2760 REM GAME HAS BEEN WON BY SOMEONE
2770 GOSUB 6510
2780 B$="GAME OVER"
2790 XL=0:YL=2:TL=1:GOSUB 6120
2800 IF CP(1)>CP(2) THEN GW=1:ELSE GW=2
2810 N$="I":IF GW=2 THEN N$="YOU"
2820 GP(GW)=GP(GW)+1:B$=N$+" WIN"
2830 XL=0:YL=4:GOSUB 6120
2840 B$="GAMES-"
2850 XL=0:YL=6:GOSUB 6120
2860 B$="ME "+STR$(GP(1))
2870 XL=0:YL=8:GOSUB 6120
2880 B$="YOU"+STR$(GP(2))
2890 XL=0:YL=10:GOSUB 6120
2900 B$="ANOTHER GAME Y/N"
2910 XL=0:YL=12:GOSUB 6120
2920 IF GP=1 THEN GP=2:ELSE GP=1
2930 GETKEY A$:CR$=CHR$(13)
2940 IF A$="N" THEN BEGIN
2950 FOR I=1 TO 4:SPRITE I,0:NEXT
2960 IF DK=0 THEN 3010
2970 SCRATCH"CRIB WINS"
2980 DOPEN#1,"CRIB WINS",W
2990 PRINT#1,GP(1);CR$;GP(2);CR$;GP
3000 DCLOSE#1
3010 GRAPHIC 0:COLOR 5,2:GRAPHIC CLR
3020 SCNCLR:BEND:END
3030 IF A$<>"Y" THEN 2930
3040 GOSUB 6510:XL=0:YL=3:GOTO 1390
3050 REM COMPUTER CALCULATION OF LAY
3060 IF (C=0) OR G1 THEN RETURN
3070 REM TEST IF COMPUTER CAN LAY
3080 S1=31-TC:FL=0:PS=0:FOR I=1 TO 4
3090 CV=CV(I):IF CV>10 THEN CV=10
3100 IF CV AND CV<=S1 THEN FL=1:I=4
3110 NEXT I:DP=0
3120 REM COMPUTER CAN'T GO
3130 IF FL=0 THEN BEGIN:XL=0:YL=B1
3140 B$="I CAN'T GO":G1=1:GOSUB 6120
3150 SLEEP DT:BEND:RETURN
3160 REM COMPUTER CHOOSES CARD TO LAY
3170 REM IF SCORE IS ZERO
3180 CH=0:IF TC=0 THEN BEGIN
3190 FOR I=1 TO 4:CV=CV(I)
3200 IF CV THEN BEGIN
3210 IF CV<>5 THEN CH(5)=I:CH=I:I=4
3220 BEND
3230 NEXT I:BEND:IF CH GOTO 3410
3240 REM PLAY LAST CARD
3250 IF C=1 THEN BEGIN:FOR I=1 TO 4
3260 IF CV(I) THEN CH=I:I=4
3270 NEXT I:BEND:GOTO 3430
3280 REM COMPUTER CHOOSES ANOTHER CARD
3290 PG=PG+1:TK=TC:FOR I=1 TO 4
```

```
3300 CV=CV(I):IF CV THEN BEGIN
3310 IF CV>10 THEN CV=10
3320 IF CV+TK<32 THEN BEGIN
3330 PG(PG)=CV(I):GOSUB 3780
3340 CH(I)=I:PS(I)=PC:CH(5)=I:BEND
3350 BEND
3360 NEXT I:TC=TK:PG=PG-1
3370 REM SELECT BEST CARD TO PLAY
3380 CH=0:FOR I=1 TO 4
3390 IF PS(I)>PS THEN PS=PS(I):CH=I
3400 PS(I)=0:NEXT I
3410 IF PS=0 THEN CH=CH(5)
3420 REM PLAY CARD
3430 PG=PG+1:PG(PG)=CV(CH):CV(CH)=0
3440 CD$=MC$(CH)
3450 TD=2:YD=17:XD=(CH-1)*3:GOSUB 6280
3460 LA=1:G1=0:DP=1:GOSUB 3780:C=C-1
3470 RETURN
3480 REM HUMAN CHOICE OF CARDS
3490 IF (H=0) OR G2 THEN RETURN
3500 B$="YOUR LAY 1-4,0"
3510 XL=0:YL=12:GOSUB 6120
3520 GETKEY A$
3530 IF INSTR("01234",A$,1)=0 THEN 3520
3540 A=VAL(A$):FG=0:IF A=0 THEN BEGIN
3550 REM CHECK IF HUMAN CAN GO
3560 FOR A=1 TO 4:HV=HV(A):IF HV>10 THEN HV=10
3570 IF HV>10 THEN HV=10
3580 IF HV AND HV+TC<31 THEN FG=1:A=4
3590 NEXT A:BEND:A=0
3600 IF FG THEN BEGIN
3610 YL=YL+1:B$="OH YES YOU CAN."
3620 GOSUB 6120:PLAY"ABABAB":SLEEP DT
3630 BEND:GOSUB 4630:GOTO 3500
3640 IF A=0 THEN G2=1:GOSUB 4630:RETURN
3650 IF HV(A)=0 THEN 3520
3660 REM TRYING TO GO OVER 31 ?
3670 HV=HV(A):IF HV>10 THEN HV=10
3680 IF HV+TC>31 THEN BEGIN
3690 YL=YL+1:B$="OVER 31."
3700 GOSUB 6120:PLAY "ABABAB":SLEEP DT
3710 GOSUB 4630:BEND:GOTO 3500
3720 REM PLAY CARD
3730 GOSUB 4630
3740 PG=PG+1:PG(PG)=HV(A):HV(A)=0
3750 CD$=YC$(A):TD=2:YD=3:XD=(A-1)*3
3760 GOSUB 6280:LA=2:G2=0:DP=1
3770 GOSUB 3780:H=H-1:RETURN
3780 REM PEGOUT
3790 IF DP THEN BEGIN:B1=12
3800 XD=12:YD=PG*2-1:GOSUB 6280
3810 BEND
3820 PC=0:TC=0:T1=0:FU=0
3830 REM ADD UP TOTAL OF PEGGED CARDS
3840 FOR J=1 TO PG:P1=PG(J)
3850 IF P1>10 THEN P1=10
3860 TC=TC+P1:NEXT J
3870 LC=PG(PG):B$=STR$(TC)
3880 B$=RIGHT$(B$,2)
3890 IF DP THEN XL=18:YL=24:GOSUB 6120
3900 REM LOOK FOR 15'S AND 31'
3910 XL=0:IF TC=15 THEN BEGIN:US=2
3920 B$="15 FOR TWO":FU=1:PC=PC+US
3930 BEND:IF DP THEN GOSUB 4520
3940 REM IS IT 31
3950 IF TC=31 THEN BEGIN:US=2:PC=PC+US
3960 B$="31 FOR TWO":FU=1:T1=1
3970 BEND:IF DP THEN GOSUB 4520
3980 REM LOOK FOR PAIRS,TRIPLITS,QUADS
3990 IF PG>1 THEN BEGIN:MP=0
4000 FOR J=PG TO 2 STEP -1
4010 IF PG(J)<>PG(J-1)THEN J=2:GOTO 4030
4020 MP=MP+1
4030 NEXT J
4040 IF MP THEN BEGIN
4050 PP=MP+1:MP=PP*PP-PP:US=MP:PC=PC+US
4060 IF FU THEN BEGIN
4070 B$="AND"+STR$(PP)+" IS"+STR$(PC)
4080 BEND:GOTO 4100
4090 B$=STR$(TC)+" FOR"+STR$(MP)
4100 FU=1:IF DP THEN  GOSUB 4520
4110 BEND
4120 BEND
4130 REM LOOK FOR RUNS
4140 IF PG>2 THEN BEGIN
4150 N=0:DO:N=N+1:BL$=BK$:SC=PG-N+1
4160 FOR J=N TO PG:MID$(BL$,PG(J))="1"
4170 NEXT J
4180 FL=INSTR(BL$,LEFT$(SR$,SC),1)
4190 IF FL THEN EXIT
4200 LOOP UNTIL SC=3
4210 REM TEST FOR FALSE RUNS
4220 IF FL AND PG>3 AND N>1 THEN BEGIN
4230 PU=PG(N-1)
4240 IF MID$(BL$,PU,1)="1" THEN BEGIN
4250 BM$=BK$:CT=0:FOR J=N-1 TO PG-1
4260 MID$(BM$,PG(J),1)="1":CT=CT+1
4270 NEXT J:FL=INSTR(BM$,LEFT$(SR$,CT))
4280 IF FL THEN FL=0:ELSE FL=1
4290 BEND
4300 BEND
4310 IF FL THEN BEGIN:US=SC:PC=PC+US
4320 IF FU THEN BEGIN
4330 B$="AND"+STR$(SC)+" IS"+STR$(PC)
4340 BEND:GOTO 4360
4350 B$=STR$(TC)+" FOR"+STR$(SC)
4360 FU=1:IF DP THEN GOSUB 4520
4370 BEND
4380 BEND
4390 IF DP=0 OR (FU+T1)=0 THEN RETURN
4400 SLEEP DT
4410 IF FU THEN GOSUB 4630
4420 IF T1=0 THEN RETURN
4430 REM CLEAR PEG SCORE
4440 FOR J=1 TO PG
4450 PG(J)=0:NEXT J:G1=0:G2=0:TC=0
4460 SP$=LEFT$(CS$,6)
4470 CHAR 1,24,24,SP$
4480 FOR J=1 TO PG*2+8
4490 CHAR 1,24,J,SP$:REM 6 SPACES
4500 NEXT J:PG=0
4510 RETURN
4520 REM WRITE SCORE ON SCREEN
4530 XL=0:YL=B1:GOSUB 6120
4540 GOSUB 4680:B1=B1+1:RETURN
4550 REM LAST CARD SUBROUTINE
4560 N$="I":IF LA=2 THEN N$="YOU"
4570 B$=N$+" GET ONE ":XL=0:YL=13
4580 GOSUB 6120:B$="FOR LAST":PT=LA
4590 YL=YL+1:GOSUB 6120:US=1:GOSUB 4680
4600 SLEEP DT:GOSUB 4630:LA=0:TC=0
4610 BEND:GOSUB 4440
4620 RETURN
4630 REM CLEAR SPACE TO WRITE SOMETHING
4640 SP$=LEFT$(CS$,22)
4650 FOR L1=12 TO 16
4660 CHAR 1,0,L1,(SP$)
4670 NEXT L1:RETURN
4680 REM UPDATE SCORES AND TEST FOR WIN
4690 CP(PT)=CP(PT)+US
4700 B$=STR$(CP(PT))
4710 B$=RIGHT$(B$,LEN(B$)-1)
4720 B$="  "+B$:B$=RIGHT$(B$,3)
4730 REM MOVE HUMANS PEGS
4740 IF PT=2 THEN BEGIN:X9=124
4750 IF SP(1)>SP(2) THEN SP=2:ELSE SP=1
4760 IF FNB(2)=226 AND FNB(1)<>226 THEN SP=2
4770 IF SP(SP)=1 THEN MOVSPR SP,289,216
4780 BEND:MU=1
4790 REM MOVE COMPUTERS PEGS
4800 IF PT=1 THEN BEGIN:X9=142
4810 IF SP(3)>SP(4) THEN SP=4:ELSE SP=3
4820 IF FNB(4)=226 AND FNB(3)<>226 THEN SP=4
4830 IF SP(SP)=1 THEN MOVSPR SP,325,216
4840 BEND
4850 DR=D(SP)
4860 REM DISPLAY SCORE
4870 Y9=24*8:GOSUB 6160
4880 IF CP(PT)=1 THEN 5120
4890 REM LOOK FOR WINNING SCORE
```

LAN COMPUTER SYSTEMS LTD

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

LEISURE SOFTWARE — Prices include VAT & Postage

A Mind Forever Voyaging	£26.99	Golf	£26.99	Demolition	£9.95
Adventure Construction Set	£22.99	Hacker	£18.99	Space Battle	£9.95
Aegis Sonic	£62.99	Hacker II	£18.99	Cvuucher Factory	£9.95
Aegis Animator	£62.99	Hitchhikers Guide to the Galaxy	£25.99	Challenger	£9.95
American Football	£19.99	Hollywood Hi Jinx	£19.95	Leaderboard Tournament	£7.99
Archon	£24.99	Hollywood Strip Poker	£14.99	Leather Goddess of Phobos	£26.99
Archon II	£24.99	Instant Music	£26.95	Little Computer People	£26.99
Arena	£27.95	Jewels of Darkness	£29.95	Mean 18 Golf	£22.99
Arctic Fox	£22.99	Karate Kid	£19.95	Mean Bridge	£23.99
Balance of Power	£22.99	Karate Kid II	£19.95	Mindshadow	£19.99
Ballyhoo	£22.99	King Quest III	£19.99	Moon Mist	£22.99
Babarians	£19.95	Kamfregruppe	£24.99	Music Studio	£26.99
Beaurocracy	£29.99	Leaderboard	£18.99	One on One	£18.99
Basketball	£19.99	S.D.I.	£24.95	Pawn	£18.99
Brattacus Pack	£26.99	The Surgeon	£43.95	Portal	£26.99
Borrowed Time	£19.99	Super Huey	£15.40	Roadwar 2000	£19.99
Cutthroats	£24.95	Tass Times	£18.99	Seven Cities of Gold	£22.99
Chessmate: Graphic Chess	£27.95	Trinity	£26.99	Shanghai	£18.99
Delux Paint I	£63.95	Temple of Apshai Trilogy	£18.99	Silent Service	£18.99
Defender of the Crown	£24.95	Ultima III	£19.95	Sinbad & The Throne of the Falcon	£24.95
Deepspace	£27.99	Uninvited	£19.95	Skyfox	£22.29
Deja Vu	£21.99	Witness	£22.99	Star Glider	£18.99
Faerytale Adventure	£34.95	Wizards Crown	£22.99	Space Quest	£19.99
Flight Simulator II	£37.99	World Games	£19.95		
Flight Simulator Scenery Disk	£18.99	Winter Games	£19.95	All Leisure/Software prices inclusive of VAT	
Guild of Thieves	£19.95	Zork I, II & III each	£22.99	Prices current at 7/8/1987	
Golden Oldies	£24.95	Phalanx	£9.95		

NEW LEISURE RELEASES AND SPECIAL OFFERS

Bards Tale	£18.95	Uninvited	£22.95
Firepower	£18.95	Emerald Forest	£9.95
Ogre	£18.95	Goldrunner	£18.95
Arctic Fox	£14.95	Hardball	£18.95
Sky Fox	£14.95	Swooper	£18.95
Pacboy	£9.95	Diablo	£14.95
Persecutor	£9.95	Starfighter	£14.95
Doctor Frost	£9.95		

APPLICATIONS SOFTWARE

Superbase Personal	£119.00	Shell	£39.00	Laser Script	£39.00
Scribble Version 2.0	£79.00	Macro Assembler	£54.00	Lattic C Compiler	£179.00
Analyse Spreadsheet Version 2.0	£79.00	Absoft AC Fortran	£259.00	Aztex Compiler Devel. version	£79.00
Softwood File II	£99.00	Absoft AC Basic	£149.00	Digiview	£189.00
Metacomco Pascal	£79.00	Aegis Sonix	£62.00	Gender Bender to allow Digiview to run on A500	£25.00
Cambridge Lisp	£119.99	Deluxe Paint II	£119.00	Digipaint	£59.00
Toolkit	£34.00	Page Setter	£109.00		

EXPORT CUSTOMERS

Please add £2.00 to cover postage and packing on Leisure and Applications Software.
HARDWARE ORDERS. Supplied tax free. Please add £30.00 to cover air freight costs on all systems and hardware.
ACCESS, VISA, EUROCHEQUES ACCEPTED.
BFPO customers free delivery and tax free!

Contact us for latest software prices

01-597 8851

COME IN AND SEE US

1063 HIGH ROAD
CHADWELL HEATH
ROMFORD, ESSEX
Tel: 01-597 8851

We are open
10.00-6.00
Monday to
Saturday

HOW TO ORDER

Enclose letter with cheque, postal order or credit card number for total amount including VAT and delivery charge outside UK.
Credit card holders may order by telephone.
Dispatch normally in 24 hrs. Contact Sales Desk.
Official orders from Educational Establishments, Local Authorities and Government departments welcome.
Contact Educ. Dept. **EXPORT HOT LINE 01-597 8854.**
TELEX 995548.
Dealer and Export Enquiries Contact Trade Dept.
Prices exclusive of VAT unless otherwise stated and correct at time of going to press.
Education callers ask for
Tony Judge or Mike Brown

Bringing the world of technology to your fingertips

APPROVED COMMODORE BUSINESS CENTRE LARGEST IN THE U.K.

Program

```
4900 IF CP(PT)>120 THEN BEGIN
4910 REM MOVE PEG TO CENTER POINT
5520 IF PT=1 THEN T$=MC$(P):GOTO5540
5530 T$=YC$(P)
5540 W$=RIGHT$(T$,1):B$=LEFT$(T$,1)
5550 CA=INSTR(B9$,W$)*16+INSTR(NU$,B$)
5560 POKE Q2+P-1,CA:RP$(P)=T$
5570 NEXT P:RP$(P)=ST$:W$=W$+ST$
5580 W$=RIGHT$(ST$,1):B$=LEFT$(ST$,1)
5590 CA=INSTR(B9$,W$)*16+INSTR(NU$,B$)
5600 POKE Q2+P-1,CA
5610 FOR P=1 TO 5:RS(P)=0:RC(P)=0
5620 CD$=RP$(P):XD=(P-1)*3:YD=4
5630 GOSUB 6280:NEXT P
5640 B$="START"
5650 YL=3:XL=16:GOSUB 6120
5660 SYS Z(2):TC=0
5670 REM SHOW CARDS
5680 CA=PEEK(Q3):PE=Q4
5690 IF CA=0 THEN BEGIN
5700 B$="NOTHING SCORED"
5710 XL=0:YL=PD:TL=255:GOSUB 6120
5720 SLEEP DT:BEND:RETURN
5730 REM MARK CARDS THAT SCORE
5740 FOR P=0 TO CA-1
5750 P1=PEEK(PE)-1:TZ=PEEK(PE+1)
5760 US=PEEK(PE+2):PE=PE+3:TC=TC+US
5770 FOR P2=0 TO P1:RS(PEEK(PE+P2))=1:NEXT
5780 PE=PE+P1+1:FOR CS=1 TO 5
5790 IF RS(CS)+RC(CS)=1 THEN BEGIN
5800 IF RS(CS) THEN TD=1:ELSE TD=3
5810 CD$=RP$(CS):XD=(CS-1)*3:YD=4
5820 BEND:GOSUB 6280
5830 RC(CS)=RS(CS):RS(CS)=0:NEXT CS
5840 REM PRINT UP SCORE
5850 ON TZ GOTO 5870,5890,5950,6050,6000
5860 REM FIFTEENS
5870 B$="FIFTEEN FOR"+STR$(TC):GOTO 6070
5880 REM PAIRS,TRIPLITS,QUADS
5890 IF TA THEN BEGIN
5900 B$="AND"+STR$(US)+" IS"+STR$(TC)
5910 BEND:GOTO 6070
5920 B$=STR$(P1+1)+" FOR"+STR$(US)
5930 GOTO 6070
5940 REM RUNS
5950 IF TA THEN BEGIN
5960 B$="AND"+STR$(US)+" IS"+STR$(TC)
5970 BEND:GOTO 6070
5980 B$=STR$(P1+1)+" FOR"+STR$(US)
5990 GOTO 6070
6000 REM ONE FOR HIS NOB
6010 B$="ONE FOR HIS NOB"
6020 IF TA THEN B$="AND "+B$
6030 GOTO 6070
6040 REM 4 OR 5 CARD FLUSHES
6050 B$=STR$(US)+" FOR A FLUSH"
6060 IF TA THEN B$="AND"+B$
6070 XL=0:YL=PD:PD=PD+1:TA=1
6080 GOSUB 6120:GOSUB 4680
6090 REM FORCED RETURN IF GAME WON
6100 IF GW THEN P=CA-1
6110 NEXT P:RETURN
6120 REM PLACE LETTERS ON HIRES SCREEN
6130 REM MU HOLDS COLOR SOURCE 1-3
6140 REM TL HOLDS INVERT NUMBER 0-255
6150 X9=XL*6:Y9=YL*8
6160 POKE IV,TL:POKE FC,MU
6170 FOR T9=1 TO LEN(B$)
6180 LT=ASC(MID$(B$,T9,1))
6190 SYS Z(4),LT,X9,Y9:X9=X9+6:NEXT T9
6200 TL=0:MU=3:RETURN
6210 REM CALCULATE CARD POS FOR CHOICE
6220 YD=3:R1=(A-1)*4
6230 IF R1>8 THEN R1=R1-12:YD=13
6240 XD=R1:CD$=YC$(A)
6250 XL=XD+A+1:IF A>3 THEN XL=XL-3
6260 YL=YD-1:B$=RIGHT$(STR$(A),1)
6270 RETURN
6280 REM DISPLAY CARDS ON SCREEN
6290 X1=XD*8:Y1=YD*8
6300 REM INVERT, RESTORE CARD
6310 IF (TD AND 1) THEN BEGIN
6320 COLOR 1,XOR(TD,3)*7+2
6330 SYS Z(6),0,X1,Y1:COLOR 1,2
6340 BEND:TD=0:RETURN
6350 REM CLEAR CARD FROM SCREEN
6360 IF TD=2 THEN BEGIN
6370 SP$="       ":REM 7 SPACES
6380 FOR Y3=0 TO 7
6390 CHAR 1,XD*2,YD+Y3,SP$
6400 NEXT Y3:TD=0:BEND:RETURN
6410 REM DRAW BACK OF CARD
6420 IF TD=4 THEN BEGIN:TD=0
6430 COLOR 1,4:SYS Z(5),0,X1,Y1
6440 COLOR 1,2:BEND:RETURN
6450 REM DRAW CARD
6460 B$=LEFT$(CD$,1):SU$=RIGHT$(CD$,1)
6470 SU=INSTR(B9$,SU$,1)*16
6480 SU=SU+INSTR(NU$,B$,1)
6490 SYS Z(5),SU,X1,Y1:MU=3
6500 COLOR 1,2:RETURN
6510 REM CLEAR LINES
6520 L1=1
6530 L2=23
6540 SP$=CS$+" ":FOR L3=L1 TO L2
6550 CHAR 1,0,L3,SP$:NEXT L3
6560 IF L3=24 THEN CHAR 1,0,L3,CS$
6570 RETURN
6580 REM DECODE CRC DATA STATMENTS
6590 REM  AND POKE INTO MEMORY
6600 READ BA,SA,EA,T1:EQ=0
6610 BANK BA:SYS M1:REM CLEAR CRC
6620 REM READ DATA IN
6630 DO:READ DA$:IF DA$="-9999" THEN EXIT
6640 DA=VAL(DA$)
6650 IF DA < 0 OR DA > 255 THEN 6740
6660 IF LEN(DA$)=3 THEN BEGIN
6670 POKE SA,DA:SA=SA+1:SYS MC,DA
6680 BEND:GOTO 6710
6690 RREG A%,X%:CK=A%*256+X%
6700 IF CK<>VAL(DA$) THEN EQ=1:EXIT
6710 LOOP
6720 IF EQ=0 AND CK=T1 THEN RETURN
6730 REM ERROR FOR DATA READ
6740 GRAPHIC 0:SLOW:COLOR 5,2
6750 PRINT"LINE/DATA ERROR IN LINE";
6760 PRINT PEEK(66)*256+PEEK(65):END
6770 REM PUT SPRITES AT START OF BOARD
6780 MOVSPR 1,289,226:MOVSPR 2,297,226
6790 MOVSPR 3,317,226:MOVSPR 4,325,226
6800 RETURN
6810 REM TRAP DISK ERRORS
6820 REM NO DISK CONNECTED
6830 COLOR 5,2
6840 IF ER=5 THEN DK=0:RESUME
6850 REM NO FILE
6860 IF DS=62 THEN RESUME NEXT
6870 REM DRIVE NOT READY
6880 IF DS=74 THEN BEGIN
6890 SLOW:GRAPHIC 0
6900 SCNCLR 0
6910 PRINT"PUT FORMATTED DISK"
6920 PRINT CHR$(17);"IN DRIVE AND PRESS"
6930 PRINT CHR$(17);"RETURN"
6940 GETKEY A$:IF A$<>CHR$(13) THEN 6940
6950 BEND:FAST:GRAPHIC3:RESUME
6960 GRAPHIC 0:SLOW
6970 PRINT ERR$(ER);EL,DS$
6980 REM MACHINE CODE
6990 DATA 0,4864,7039,52581
```

```
7000 DATA 076,021,019,076,224,019,076,082,019,076,034,024,076,152,024,076,39728
7010 DATA 188,022,076,124,022,169,006,141,096,011,169,004,141,097,011,032,23822
7020 DATA 062,022,160,000,162,000,189,123,011,153,000,011,200,232,224,004,37220
7030 DATA 208,244,032,083,022,208,237,160,063,169,000,153,000,014,136,016,43688
7040 DATA 250,160,012,185,115,027,153,000,014,136,016,247,169,255,141,136,26198
7050 DATA 011,096,141,106,011,169,000,141,121,011,024,162,003,014,106,011,64257
7060 DATA 046,121,011,202,208,247,169,014,141,109,011,169,004,141,096,011,53482
7070 DATA 173,109,011,010,010,170,169,004,141,099,011,189,000,011,168,185,44390
7080 DATA 069,011,172,099,011,153,075,011,232,206,099,011,208,237,032,232,17945
7090 DATA 019,173,101,011,024,010,010,010,013,102,011,174,109,011,157,140,49058
7100 DATA 011,206,109,011,016,202,169,253,141,110,011,162,000,142,101,011,45240
7110 DATA 142,107,011,189,140,011,172,121,011,208,012,205,106,011,144,007,53748
7120 DATA 142,107,011,162,014,208,013,205,101,011,240,008,144,006,141,101,39957
7130 DATA 011,142,107,011,232,224,015,208,218,173,107,011,024,010,010,096,46816
7140 DATA 162,005,142,096,011,238,110,011,174,096,011,138,202,157,091,011,28811
7150 DATA 208,249,142,108,011,142,104,011,142,105,011,142,112,011,162,004,16820
7160 DATA 189,076,011,168,041,240,157,086,011,152,041,015,157,081,011,202,51961
7170 DATA 016,238,162,003,189,086,011,202,048,007,221,086,011,208,021,240,59834
7180 DATA 246,141,104,011,174,096,011,202,224,004,208,016,221,086,011,208,27602
7190 DATA 003,141,105,011,162,004,189,086,011,141,111,011,169,000,141,103,53743
7200 DATA 011,174,096,011,202,138,168,136,048,040,189,081,011,217,081,011,60198
7210 DATA 176,242,072,185,081,011,157,081,011,104,153,081,011,189,091,011,62607
7220 DATA 072,185,091,011,157,091,011,104,153,091,011,169,001,141,103,011,04607
7230 DATA 208,210,173,103,011,208,197,169,000,141,102,011,141,101,011,169,32205
7240 DATA 002,141,097,011,032,062,022,169,000,141,099,011,172,097,011,136,52559
7250 DATA 032,054,022,170,201,011,144,002,169,010,024,109,099,011,141,099,19075
7260 DATA 011,136,016,236,169,015,205,099,011,208,010,169,002,172,097,011,09477
7270 DATA 162,001,032,044,022,032,083,022,208,205,238,097,011,173,097,011,17286
7280 DATA 205,096,011,144,191,240,189,162,000,169,000,141,099,011,141,100,25145
7290 DATA 011,189,081,011,232,236,096,011,176,072,221,081,011,208,005,238,49350
7300 DATA 099,011,208,237,173,099,011,240,232,142,100,011,170,024,105,001,30748
7310 DATA 141,099,011,109,099,011,202,208,250,056,237,099,011,172,099,011,29938
7320 DATA 162,002,032,226,021,174,100,011,173,096,011,201,004,240,186,136,10468
7330 DATA 189,090,011,153,116,011,202,136,016,246,032,004,022,174,100,011,61552
7340 DATA 208,167,173,099,011,208,189,173,096,011,141,097,011,032,062,022,61850
7350 DATA 169,000,141,100,011,172,097,011,136,032,054,022,141,099,011,136,40696
7360 DATA 032,054,022,206,099,011,205,099,011,208,026,136,016,242,173,097,06647
7370 DATA 011,201,002,208,005,238,102,011,208,011,168,162,003,032,044,022,04515
7380 DATA 169,001,141,100,011,032,083,022,208,203,173,100,011,208,010,206,45537
7390 DATA 097,011,173,097,011,201,001,208,180,169,005,141,097,011,173,105,40001
7400 DATA 011,208,013,173,110,011,240,031,206,097,011,173,104,011,240,023,54429
7410 DATA 032,062,022,173,097,011,168,162,004,032,226,021,170,138,157,115,57798
7420 DATA 011,202,208,249,032,004,022,172,096,011,136,185,081,011,201,011,02780
7430 DATA 240,004,136,016,246,096,238,102,011,173,096,011,201,004,240,242,38187
7440 DATA 185,091,011,201,005,240,235,170,189,085,011,205,111,011,208,226,40125
7450 DATA 185,091,011,141,116,011,169,001,168,162,005,032,226,021,032,004,34709
7460 DATA 022,096,141,115,011,140,113,011,142,114,011,024,109,101,011,141,53003
7470 DATA 101,011,096,172,097,011,185,122,011,170,189,090,011,153,115,011,63613
7480 DATA 136,208,243,096,173,096,011,201,004,240,032,172,113,011,200,200,52748
7490 DATA 140,099,011,160,000,174,108,011,185,113,011,157,140,011,200,232,25141
7500 DATA 206,099,011,016,243,142,108,011,238,112,011,096,032,226,021,032,23815
7510 DATA 243,021,032,004,022,096,185,123,011,170,189,080,011,096,173,096,52711
7520 DATA 011,056,237,097,011,141,128,011,174,097,011,138,157,122,011,202,22216
7530 DATA 208,249,096,174,097,011,254,122,011,138,024,109,128,011,221,122,36070
7540 DATA 011,176,005,202,240,021,208,238,236,097,011,240,012,189,122,011,45977
7550 DATA 232,157,122,011,254,122,011,208,239,169,001,096,141,107,011,169,06968
7560 DATA 000,141,111,011,173,107,011,168,136,170,185,140,011,221,140,011,54249
7570 DATA 144,032,240,030,072,189,140,011,153,140,011,104,157,140,011,185,27861
7580 DATA 146,011,072,189,146,011,153,146,011,104,157,146,011,169,001,141,11594
7590 DATA 111,011,202,136,016,212,173,111,011,208,196,096,142,132,011,140,45411
7600 DATA 133,011,169,000,133,251,173,133,011,041,248,133,250,010,038,251,60525
7610 DATA 010,038,251,024,101,250,133,250,169,028,101,251,133,251,173,132,23474
7620 DATA 011,074,074,024,101,250,133,250,144,002,230,251,162,007,165,134,24095
7630 DATA 010,010,010,010,009,002,160,005,145,250,136,016,251,169,040,024,04920
7640 DATA 101,250,133,250,144,002,230,251,202,016,227,096,174,134,011,172,60269
7650 DATA 135,011,032,188,022,032,068,023,169,004,162,016,032,097,023,169,54047
7660 DATA 003,162,018,032,097,023,160,058,169,002,162,020,032,097,023,136,14286
7670 DATA 208,246,169,003,162,018,032,097,023,169,004,162,016,032,097,023,41115
7680 DATA 032,068,023,096,024,169,005,109,134,011,141,132,011,169,003,141,22373
```

TRIANGLE
TELEVISION

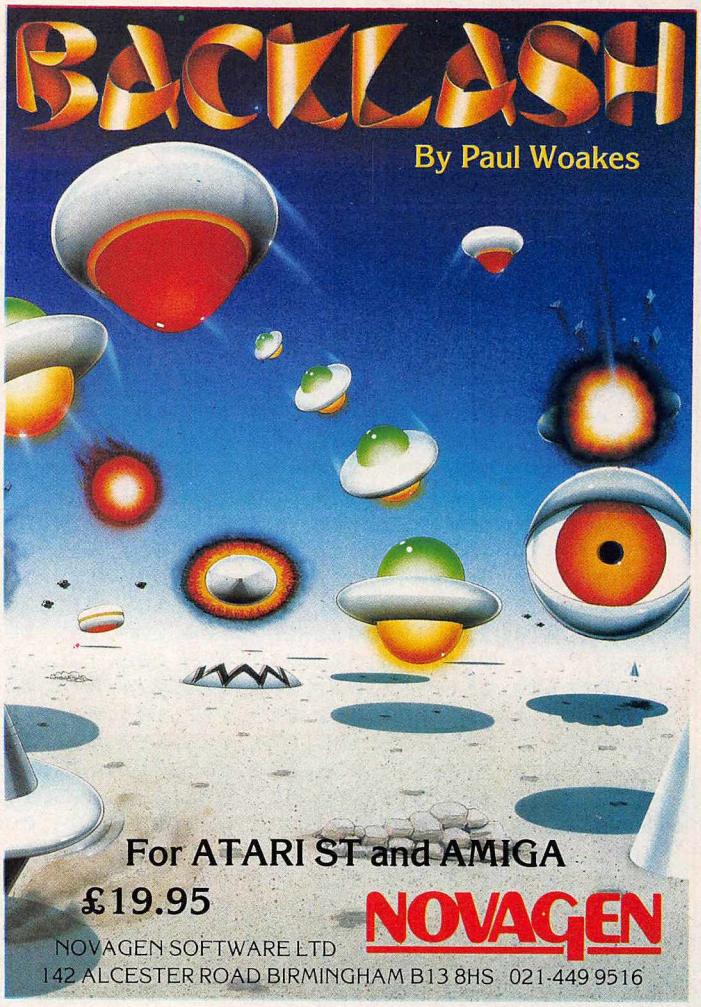
THE AMIGA SPECIALIST

★ FOR ALL YOUR VIDEO AND AUDIO VISUAL REQUIREMENTS
★ A500 AND A2000
★ FULL RANGE OF PERIPHERALS
★ FULL RANGE OF SOFTWARE
★ RGB CONVERTERS GENLOCKS
★ TRAINING COURSES

Phone for details

TRIANGLE TELEVISION
130 BROOKWOOD ROAD
LONDON SW18 S88
Tel: 01-874 3418

VISA



NOVAGEN SOFTWARE LTD
142 ALCESTER ROAD BIRMINGHAM B13 8HS 021-449 9516

TRILOGIC

HI-TECH HARDWARE FROM THE CREATORS OF THE 'EXPERT'

Access

EXPRESS DELIVERY £1.95

PRICES INCLUDE VAT & POSTAGE

24 HOUR MAIL ORDER HOTLINE

THE PHANTOM
PARALLEL TURBO SYSTEM FOR THE 1541 DISK DRIVE

- Save & load upto 25x faster.
- Load 240 blocks in 7 secs.
- Function key major commands.
- Drive monitor.
- EXPERT compatible.
- Kernals for 64, 128/64 mode, state which when ordering.
- FREE DOPPLEGANGER COPIER DISK WORTH £20.00 INCLUDED.
- Format 35 tracks in 20 secs.
- Save 84 blocks in 4 secs.
- 40 track capability.
- Full error checking retained.
- Compatible with most software.

£78.99

AMIGA PRODUCTS

Amiga monitor leads from	£12.95
Amiga to 64 serial printer link	£29.99
A500 printer lead	£17.99
A1000 printer lead	£17.99
A500-A1000 printer lead adaptor	£9.99
Amiga mouse/joystick switcher	£7.99

Monitor leads for ATARI ST also available

COMPUTER CONTROLLED ROBOT ARM

- Ideal for educational use.
- 5 Axes of motion.
- Grips from paper clips to tennis balls.
- Battery operated (batteries not included).
- Size apprx 12"x9"x6" unextended.
- Software supplied on disk or tape.
- For C64 & 128. Interface included.
- Optional mains power pack.

£139.95

EXTERNAL PROCESSOR FOR C64

- 4Mhz operating speed.
- Speed variable from 0.1 to 4Mhz.
- 64K extra ram.
- Battery back-up.
- 16 bit operating system
- Serial disk turbo included.

£149.95

THE SCORPION

- Switches joystick from port 1 to 2
- Be both players in two player games.
- Saves wear & tear on joystick ports

£8.99

Fits most COMPUTERS INC. AMIGA/ATARI

THE TITANS

- Heavy duty C64 power units.
- Uprated outputs.
- Available with built-in mains interference suppressors.

£31.99 & £39.99

THE I-CONS

USE your 128 in 80 column mode on most TV/monitors.

- ALL 16 colours & audio
- 40/80 switching
- Just plug-in & switch on. RGB INPUT ESSENTIAL

£23.99

OTHER HI-TECH PRODUCTS: –

- *MONITOR & PRINTER LEADS,*
- *USER PORT EXPANDERS,*
- *EPROM & CARTRIDGE BOARDS,*
- *DIY KERNAL BOARDS*
- *RESET SWITCHES,*
- *DISK NOTCHERS*
- *PRINTER RIBBONS,*
- *PAPER,*
- *LABELS,*
- *DUST COVERS.*
- *MONITOR TURNTABLE.*

FULL DETAILS IN OUR FREE CATALOGUE

THE EPROM BURNER

- 2K – 32K eproms incl CMOS types
- Read, test, verify.
- Selectable programming voltage
- Load & save eprom data on disk
- Monitor & editor included.
- User port expander included
- Disk software included.

£69.99

THE AUDIO DIGITIZER
FOR 64 & 128

£19.99

- Digitizes any sound
- Save, load & alter sounds
- Software supplied – state whether disk or tape version required
- Variable speed control.
- Create your own sound effects

– WRITE OR PHONE FOR YOUR COPY – NOW.

0274 · 691115 TRILOGIC, 253B NEW WORKS ROAD, BRADFORD BD12 0QP

Program

```
7690 DATA 131,011,162,016,032,141,023,238,132,011,202,208,247,238,133,011,41915
7700 DATA 096,024,109,134,011,141,132,011,169,003,141,131,011,032,141,023,41459
7710 DATA 238,132,011,169,001,141,131,011,032,141,023,238,132,011,202,208,59366
7720 DATA 247,169,003,141,131,011,032,141,023,238,133,011,096,072,138,072,61060
7730 DATA 152,072,173,131,011,024,162,003,106,202,208,252,133,089,174,132,34755
7740 DATA 011,142,129,011,172,133,011,204,136,011,240,054,169,000,141,136,10225
7750 DATA 011,133,252,152,041,007,141,130,011,152,041,248,072,074,074,074,46938
7760 DATA 133,253,104,024,162,003,010,046,136,011,202,208,249,024,109,130,08170
7770 DATA 011,133,252,173,136,011,101,253,105,032,133,253,173,133,011,141,12126
7780 DATA 136,011,165,252,133,250,165,253,133,251,173,129,011,041,252,010,38754
7790 DATA 144,002,230,251,024,101,250,133,250,144,002,230,251,173,129,011,04187
7800 DATA 041,003,170,169,063,224,000,240,011,056,106,106,024,102,089,102,42370
7810 DATA 089,202,208,245,160,000,049,250,005,089,145,250,104,168,104,170,20456
7820 DATA 104,096,141,099,011,142,100,011,140,133,011,169,000,141,127,011,02872
7830 DATA 169,204,133,142,169,025,133,143,160,000,177,142,240,018,205,099,30449
7840 DATA 011,240,020,024,169,009,101,142,133,142,144,236,230,143,208,232,05889
7850 DATA 169,032,141,099,011,208,217,200,177,142,077,138,011,174,100,011,45393
7860 DATA 142,132,011,141,137,011,162,006,173,099,011,201,005,176,002,162,56347
7870 DATA 007,046,137,011,144,005,173,139,011,208,003,173,127,011,141,131,24585
7880 DATA 011,032,141,023,238,132,011,202,208,231,173,100,011,141,132,011,00480
7890 DATA 238,133,011,192,008,208,192,096,142,134,011,140,135,011,201,000,41100
7900 DATA 208,004,032,012,023,096,168,169,001,141,127,011,169,000,141,138,08148
7910 DATA 011,152,041,240,074,074,074,074,141,103,011,152,041,015,141,116,47369
7920 DATA 011,032,012,023,172,103,011,136,185,088,025,141,139,011,172,116,57371
7930 DATA 011,136,185,075,025,162,003,160,003,032,050,025,173,116,011,201,17262
7940 DATA 011,144,035,173,103,011,162,010,160,003,032,050,025,173,103,011,57400
7950 DATA 162,015,160,053,032,050,025,172,116,011,136,185,075,025,162,008,21964
7960 DATA 160,053,032,050,025,096,169,000,141,098,011,172,116,011,152,109,63012
7970 DATA 098,011,141,098,011,136,208,246,172,098,011,185,092,025,170,185,35175
7980 DATA 148,025,168,173,103,011,032,050,025,206,098,011,206,116,011,208,04472
7990 DATA 231,096,141,099,011,138,024,109,134,011,105,001,141,100,011,152,45130
8000 DATA 024,109,135,011,141,133,011,032,048,024,096,065,050,051,052,053,37835
8010 DATA 054,055,056,057,084,074,081,075,002,003,002,003,000,009,009,009,49906
8020 DATA 009,009,009,003,014,003,014,009,003,014,003,014,003,014,003,014,09500
8030 DATA 003,014,003,014,003,014,003,014,009,003,014,003,014,003,014,003,22123
8040 DATA 014,003,014,003,014,003,014,003,014,009,003,014,003,014,003,014,49655
8050 DATA 003,014,009,009,000,032,019,045,032,019,045,019,019,045,045,032,07251
8060 DATA 019,019,045,045,018,018,036,036,054,054,018,018,036,036,054,054,58199
8070 DATA 027,013,013,026,026,039,039,052,052,013,013,026,026,039,039,052,25164
8080 DATA 052,032,013,013,026,026,039,039,052,052,019,045,001,000,040,124,13176
8090 DATA 124,124,056,016,000,002,000,016,056,124,124,124,016,056,003,000,09712
8100 DATA 016,056,124,124,056,016,000,004,016,056,084,238,084,016,056,000,40860
8110 DATA 032,000,000,000,000,000,000,000,000,039,024,048,096,000,000,000,29461
8120 DATA 000,000,044,000,000,000,000,048,048,016,048,045,000,000,000,056,33048
8130 DATA 056,000,000,000,046,000,000,000,000,000,000,016,016,047,000,004,53962
8140 DATA 008,016,032,064,128,000,048,048,072,072,072,072,072,048,000,049,21209
8150 DATA 048,112,016,016,016,016,124,000,050,056,068,004,056,064,064,124,25250
8160 DATA 000,051,048,072,008,016,008,072,048,000,052,024,040,072,072,124,10270
8170 DATA 008,008,000,053,120,064,064,112,008,008,112,000,054,016,032,064,20276
8180 DATA 112,072,072,048,000,055,120,008,008,016,016,016,016,000,056,048,00437
8190 DATA 072,072,048,072,072,048,000,057,048,072,072,056,008,008,008,000,32690
8200 DATA 063,048,072,008,016,016,000,016,000,065,016,040,068,068,124,068,19442
8210 DATA 068,000,066,120,068,068,120,068,068,120,000,067,028,032,064,064,37183
8220 DATA 064,032,028,000,068,112,072,068,068,068,072,112,000,069,124,064,16617
8230 DATA 064,120,064,064,124,000,070,124,064,064,120,064,064,064,000,071,16684
8240 DATA 024,032,064,076,068,036,024,000,072,068,068,068,124,068,068,068,00432
8250 DATA 000,073,124,016,016,016,016,016,124,000,074,124,016,016,016,080,25554
8260 DATA 080,032,000,075,068,072,080,096,080,072,068,000,076,064,064,064,11719
8270 DATA 064,064,064,120,000,077,068,108,084,068,068,068,068,000,078,100,41311
8280 DATA 084,084,076,076,068,068,000,079,016,040,068,068,068,040,016,000,24728
8290 DATA 080,120,068,068,120,064,064,064,000,081,016,040,068,084,072,044,50166
8300 DATA 020,000,082,120,072,072,112,080,072,072,000,083,056,064,064,048,39966
8310 DATA 008,008,112,000,084,124,016,016,016,016,016,016,000,085,072,072,06258
8320 DATA 072,072,072,072,048,000,086,072,072,072,072,072,048,048,000,087,37691
8330 DATA 068,068,068,068,084,084,040,000,088,068,068,040,016,040,068,068,47669
8340 DATA 000,089,068,068,040,016,016,016,016,000,090,124,004,008,016,032,18874
8350 DATA 064,124,000,032,000,000,168,000,000,168,000,000,032,000,000,000,52581
8360 DATA -9999
```

Program

EXTENDED KEYBOARD

By A. Cloke

C-128 in 64 mode
A very useful utility that enables the owners of Commodore 128s to use the numeric keypad and other additional keys while in 64 mode. As these keys are not normally available in 64 mode they need not retain the same function. A.Cloke has taken advantage of this and explains the benefits.

This utility allows the user to operate the extended keyboard on the Commodore-128, in 64 mode. The extra keyboard was only rendered inoperative by the Commodore-64's KERNAL, copied exactly into the Commodore-128 to enable complete software compatability in 64 mode. The VIC chip still registers when the extra keys are pressed, they are just not supported by the 64's KERNAL.

This short programme tests whether the extra keys are pressed, and if so places them in the keyboard buffer. It must be entered in 64 mode and then RUN to install the machine-code routine. It is activated by the command SYS 49152. N.B. When RUN/STOP RESTORE is pressed the routine is stopped and must be re-activated. It is fully compatable with the POKEs for repeating keys, i.e.
POKE 650, 128 — All keys repeated.
POKE 650, 64 — No keys repeated.
POKE 650, 0 — Cursor/Delete keys repeated (default).

The special editing keys (ESC, ALT, etc.) do not perform the same function as in 128 mode, instead they can be programmed to respond like other keys. This can be useful if a key does not respond well or has broken, or if some colour change needs to be easily evoked. For example, the ALT key could be programmed to change the cursor colour to light green and the ESC key can be programmed to act like SHIFT-RETURN (to escape from inside a quote field). The following table lists the locations of these editing keys:-

Help	— 49324
Tab	— 49327
Esc	— 49332
Line Feed	— 49335
Alt	— 49340
No Scroll	— 49347

N.B. The keys Caps Lock and 40/80 Display are not supported by this programme.

To programme them, simply POKE the ASCII value of the required character into the relevant location, e.g. POKE 49332, 141 will programme SHIFT-RETURN to the Esc key.

Or as an aid to entering data statements try: POKE 49342,44.This will change the '.' into a ','.

N.B. Reset the computer using the RUN/STOP restore combination BEFORE changing any of these values.

It is important to note that, unfortunately, it is highly unlikely that this routine will work in any commercial software.

BASIC LOADER

```
0 REM ************************
1 REM **                    **
2 REM ** EXTENDED KEYBOARD **
3 REM **                    **
4 REM **  (C) BY A. CLOKE   **
5 REM **                    **
6 REM ************************
10 L= 49152
20 FOR X=0 TO  13 :T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT 1000+(X*10)"OK":NEXT
1000 DATA 173,020,003,141,170,192,173,021,003,141,171,192,120,169,025, 178
1010 DATA 141,020,003,169,192,141,021,003,088,096,162,000,169,003,141, 069
```

Program

BASIC LOADER (continued)

```
1020 DATA 167,192,169,255,141,000,220,169,254,141,047,208,072,173,001, 161
1030 DATA 220,160,008,074,144,019,232,136,208,249,104,010,206,167,192, 081
1040 DATA 208,233,169,000,141,168,192,076,154,192,104,164,198,192,010, 153
1050 DATA 240,077,173,168,192,208,032,173,138,002,201,064,240,020,201, 081
1060 DATA 128,240,008,224,019,144,012,224,023,176,008,169,018,141,169, 167
1070 DATA 192,076,114,192,169,000,141,169,192,189,172,192,205,168,192, 059
1080 DATA 240,011,153,119,002,141,168,192,230,198,076,154,192,173,169, 170
1090 DATA 192,240,016,206,169,192,208,011,169,004,141,169,192,189,172, 222
1100 DATA 192,076,122,192,169,255,141,047,208,169,127,141,000,220,108, 119
1110 DATA 170,192,000,000,000,000,000,072,056,053,084,050,052,055,049, 065
1120 DATA 069,043,045,076,013,054,057,051,065,048,046,145,017,157,029, 147
1130 DATA 078,000,000,000,000,000,000,000,000,000,000,000,000,000,000, 078
```

ASSEMBLER LISTING

```
1 ! ************************
2 ! **                    **
3 ! ** EXTENDED KEYBOARD **
4 ! **                    **
5 ! **  (C) BY A. CLOKE   **
6 ! **                    **
7 ! ************************
100 *=$C000
110 LDA $0314 ! TAKE NOTE OF OLD
120 STA INTJMP ! INTERRUPT POINTER.
130 LDA $0315
140 STA INTJMP+1
150 SEI
160 LDA #<INTSTR ! SET UP NEW
170 STA $0314 ! INTERRUPT.
180 LDA #>INTSTR
190 STA $0315
200 CLI
210 RTS
220 INTSTR LDX #$00 ! INTERRUPT ENTRY POINT.
230 LDA #$03
240 STA COUNT
250 LDA #$FF ! PREVENT STANDARD
260 STA $DC00 ! KEYBOARD INTERFERING.
270 LDA #$FE ! START AT COLUMN 0.
280 INTLP0 STA $D02F
290 PHA
300 LDA $DC01 ! READ OFF ROW NUMBERS.
310 LDY #$08
320 INTLP1 LSR A
330 BCC INTKEY ! IF KEY PRESSED, LOG IT.
340 INX
350 DEY
360 BNE INTLP1 ! REPEAT FOR ALL 8 ROWS.
370 PLA
380 ASL A
390 DEC COUNT ! REPEAT FOR ALL 3 COLUMNS.
400 BNE INTLP0
410 LDA #$00 ! IF NO KEY PRESSED,
420 STA LSTKEY ! RESET LOG OF LAST KEY.
430 JMP INTSK0
440 !
450 INTKEY PLA ! EVEN UP STACK.
460 LDY $C6 ! SKIP, IF KEYBOARD BUFFER
470 CPY #$0A ! ALREADY FULL.
480 BEQ INTSK0
490 LDA LSTKEY ! CHECK FOR A POSSIBLE REPEAT.
500 BNE INTSK1
510 LDA $028A ! LOAD REPEAT FLAG.
520 CMP #$40 ! NO REPEAT?
530 BEQ INTSK3
540 CMP #$80 ! ALL REPEAT?
550 BEQ INTSK5
560 CPX #$13 ! CHECK FOR CURSOR KEYS,
570 BCC INTSK3 ! ALWAYS REPEATED.
580 CPX #$17
590 BCS INTSK3
600 INTSK5 LDA #$12 ! SET UP REPEAT.
610 STA RPTCT1
620 JMP INTSK1
630 INTSK3 LDA #$00 ! SET UP NO REPEAT.
640 STA RPTCT1
650 INTSK1 LDA KEYCOD,X
660 CMP LSTKEY ! IF SAME KEY AS LAST TIME
670 BEQ INTSK2 ! BRANCH TO DELAY ROUTINE.
680 INTSK4 STA $0277,Y ! STORE KEY IN BUFFER,
690 STA LSTKEY
700 INC $C6 ! AND INCREASE POINTER.
710 JMP INTSK0
720 INTSK2 LDA RPTCT1 ! IF NO REPEAT, EXIT.
730 BEQ INTSK0
740 DEC RPTCT1 ! DECREASE DELAY COUNTER.
750 BNE INTSK0
760 LDA #$04 ! IF ZERO, RESET REPEAT,
770 STA RPTCT1
780 LDA KEYCOD,X ! AND LOG IT IN
790 JMP INTSK4 ! KEYBOARD BUFFER AGAIN.
800 INTSK0 LDA #$FF ! PREVENT EXTENDED KEYBOARD
810 STA $D02F ! FROM INTERFERING WITH
820 LDA #$7F ! STANDARD KEYBOARD
830 STA $DC00 ! DECODING ROUTINE.
840 JMP (INTJMP) ! JUMP BACK TO STANDARD IRQ.
850 !
860 COUNT BYT 0 ! COLUMN COUNTER.
870 LSTKEY BYT 0 ! LAST KEY LOG BYTE.
880 RPTCT1 BYT 0 ! REPEAT COUNTER.
890 INTJMP BYT 0,0 ! STANDARD IRQ ROUTINE POINTER.
900 KEYCOD TXT "H85T2471E+-L" ! EXTENDED
910 BYT $0D ! KEYBOARD DECODE TABLE.
920 TXT "693A0.[CRSR][CRSR]N"
930 !
940 !   SEQUENCE OF UNDERLINED CHARACTERS
950 !             IN LINE 920 :-
960 ! [CRSR UP],[CRSR DN],[CRSR LT],[CRSR RT].
970 END
```

CLASSIFIED

Convert most C64 utility/basic programs to run on +4 tape/disk £8.99. 7 Regent Drive, Tividale, Warley, West Midlands B69 1TM.

DRILLER Federation — Heroes wanted. ffff rrrr eeee eeee ssss cccc aaaa pppp eee.

Championship Football for C-64 a must for soccer fans send cheque/P.O. for £4.99 to L. Riby, 133 Sutton Road, Hull.

C64 owner wishes to swap top quality software have all newest games. Disk only. No beginners please, write to Paul Jones, 6 Primrose Way, Masegwyn Estate, Wrexham, Clwyd.

C64/128 owner wants to swap software all over the world. Over 300 titles on disks only. All letters answered. Send complete list to: Ioannis Balaska, 89 John Foka Street, Galatsi 111 46, Athens, Greece.

Amiga owner wishes to swap software have many new titles send lists to David Fisher 129 Hartley Road, King-Standing, Birmingham B44 0RD.

For sale CBM64 Excelerator+ Drive (new), tape, MPS803 printer with tractor feed and paper. In boxes. Software on disk (600+) Plus more! £500 ono. T. Jones, 8 Lovell Place, Rotherhithe, London SE16 1QQ.

Swop or sale, Super games for +4/C16 for further details phone Manchester (061) 236 3311 ext 2594 ask for Chen. If out please leave your name and address.

For Sale: Deluxe Paint £40 + Karate Kid PTII £10 or nearest offers! Also Voicemaster C64 Digitiser £25 ono. Hurry, phone Matt or Tony Pandy 437853 Hello Andrew!

C64 1541 "quiet" drive, two 1530 tapes, MPS 801 printer, Expert, Freeze Frame, Currah, DCLI, Reset, 100 D/S Disks, 50 tapes, complete Input in binders, Ref Guide, Books, Mags, J/sticks, £450 ono. Martin 0773 715311.

Wanted C64 Back-Gammon with player versus computer mode. Also Asteroids wanted. Ring Bryan after 6.30pm on 0604 717327.

Amiga and C64 owner wish to contact others. Write to the Blues Brothers at 125 Arnold Road, Bestwood Estate, Nottingham NG5 5HR Hi to Silver Ghosts!

Plus 4 computer power pack, manuals, joystick £35, also MPS 803 printer with tractorfeed and manual £50. Tel: Portsmouth 0705 696889.

CBM 64 Datacorder, Citizen printer, paper, joystick, £40 of books, lots of games and utility programs £350. Tel: (0639) 885417 Port Talbot after 5pm.

C64 user wishes to swap games on tape only. Send list for mine. All letters answered. Send to: Richard Powell, 8 Badger Drive, Woodhouse, Sheffield S13 7TJ.

CBM64 owner many programs to swap disk only. Please send your list to: Toni Gonsalves, 187 Brand Road, Durban, 4001 South Africa. All letters answered.

Amiga A500 for sale, boxed, complete with introduction pack, and with 10 months guarantee. Only £420. Contact Nigel on 061 973 5604 after 6.30pm.

Swap metal dector, C-Scope 770 as new, for 64 compatible disk drive, will deliver 50 miles radius, Haverhill, Suffolk, please phone (0440) 704101 anytime. Disabled reader.

Amiga A500 software to swap. All the latest titles. Please send lists to: Elliot Mason, 41 Brittany Rd, Hove, Sussex BN3 4PA. P.s. Disk only!!

C64 games for sale World Games £4.99, Gauntlet £4.99, Future Knight £3.99 plus many more. Send a SAE for list to 19 Crescent Road, Sidcup, Kent.

Commodore 64 utilities for sale. Includes G.A.C. for £5 and reduced price for lot. Details from T. Leighton, 6A Bath Terrace, Tynemouth, Tyne and Wear NE30 4BL. Tape only.

C64 with 1541 disc drive, 1530 data cassette, Trilogic Transfer unit and comprehensive software on 80 tapes and 30 discs. Price £140.00. Phone (0243) Bognor 864867.

HERE'S MY CLASSIFIED AD . . .

		(Private Readers — Free-Max 32 words) Trade Advertisements — **50**p per word			

I make this _____ words at _____ p per word, so I enclose £ _____

Please continue on a separate sheet of paper for trade advertisements

Name _____

Address _____

Tel: _____

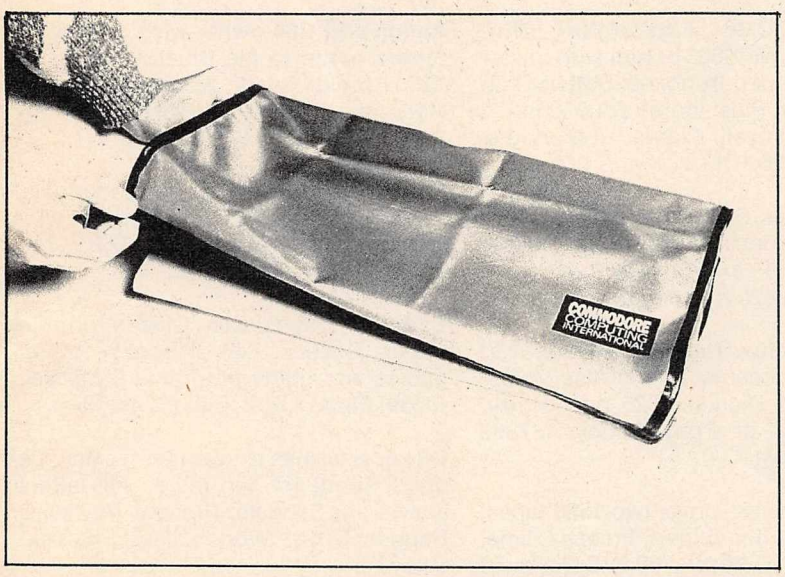
Send your classified entries to:

Classified Department,
Commodore Computing International Magazine.
40 Bowling Green Lane, London EC1R ONE
Tel: 01-278 0333 Ext.280

COVER UP!

A cover for your Commodore computer will protect it from dirt and damage.

CCI is making a special offer of strong, goodlooking covers to fit Commodore computers : C64, C16, Plus/4 and C128. The covers are designed in a cool grey with a neat yellow on black logo. They are of the highest quality and manufactured in smooth plastic to first class standards. CCI covers... Protect your Commodore computer with a touch of style.



Only £3.99
for the C64, C16, C18, Plus/4, C128 and 64C (all + 75p P+P)

Please send me .... covers for my
C64 ☐ C16 ☐ Plus/4 ☐ C128 ☐ 64C ☐
I enclose cheque/P.O. payable to Croftward Ltd for £.....
Please charge my
Access Acc No ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
Name .....
Address .....
.....
Postcode .....
Send to: CCI Cover Offer 010
Commodore Computing International
40 Bowling Green Lane
London EC1R ONE. Allow 28 days for delivery

POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

Boxed, with detailed instruction booklet

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available – 22000 matches over 10 years.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture – choose as many selections as you need for your bet. The precise prediction formula can be set by the user – you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **LEAGUE AND NON-LEAGUE** All English and Scottish League teams are supported, and also the non-league sides often used on pools coupons.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

PRICE £15.00 (all inclusive)

NOW AVAILABLE

FIXGEN 87/8 AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish League fixtures for 1987/8. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.

POOLSWINNER with FIXGEN £16.50 (for both)

COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM

NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricasts etc. The database includes vital course statistics for all British courses. You can update the database – never goes out of date. *FULL PRINTER SUPPORT.*

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

ALL PROGRAMS AVAILABLE FOR: AMSTRAD CPCs, AMSTRAD PCWs, PC1512, All BBCs, All SPECTRUMS, COMMODORE 64/128.
Supplied on tape (automatic conversion to disc) – except PCW and PC1512 (on disc – add £3.00).

Send Cheques/POs for return of post service to . . .

VISA phone 24 hrs

selec SOFTWARE

Access phone 24 hrs

37 COUNCILLOR LANE, CHEADLE, CHESHIRE SK8 2HX. ☎ 061-428 7425
(Send for full list of our software)

A Powerful Wordprocessor
for the Commodore 128®

Font master 128

Selected for the 1987 CES Software Showcase Award.

From the author of **Fontmaster II** comes **Fontmaster 128**. an enhanced version for the Commodore 128. This powerful word processor with its many different print styles (fonts), turns your dot matrix printer into a more effectual tool. Term papers, newsletters, and foreign languages are just a few of its many applications.

* Program disk with no protection - uses hardware key
* Supplement disk includes foreign language fonts
* 56 Fonts ready to use
* Font editor/creator included
* On screen Font preview
* 80 column only
* Supports more than 110 printers
* *Includes a 102,000 word Spell Checker*

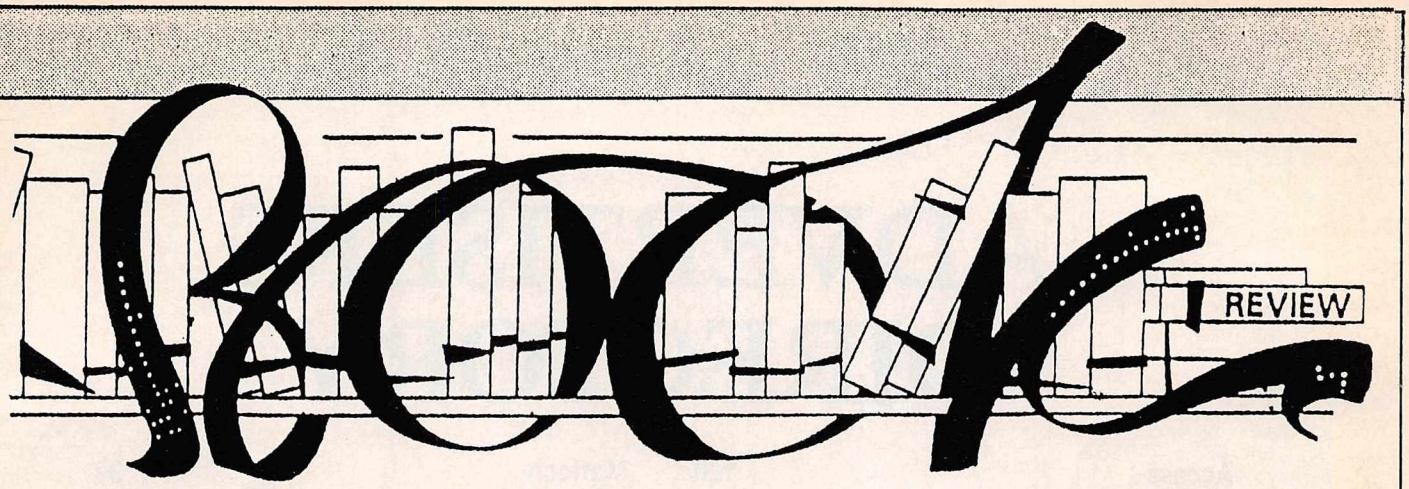
Only £49.95 incl

* Insert graphics within text or superimpose text over them & turn this package into a Desk Top Publisher. Clip-Art disk with 110 images £5

* C128 cannon 1571/1581 nibbler fast copier, just what 1571 owners have been waiting for £34.95

Commodore 1581 800k 3½" fast serial drive for 128/64 £199.95

* Sole UK importers and distributors are BYTES & PIECES, 37 Cecil Street, Lytham, Lancashire, FY8 5NN.



BIG BLUE

by Richard Thomas DeLamarter (Macmillan £14.95)

IBM — or the International Business Machines Corporation, to give it its full name — was born in New York, in February 1924. You could say its mother was the Computing-Tabulating-Recording Company, (an offshoot of the National Cash Register Co.), which rented out tabulating machines and sold blank punch cards to American firms who were anxious to mechanise their accounting systems. Its father was Thomas J. Watson, a one-time travelling salesman, who became, for forty years, IBM's Chief Executive.

Thomas J. Watson came into IBM via a job as a cash-register peddler for National Cash Registers. Ruthless and ambitious, he rose to become an executive, learning everything he knew from John Patterson the domineering head of NCR, a man who 'viewed all challengers to his company's manifest destiny as just so many dogs to decapitate'. But when the US government prosecuted NCR under the anti-trust laws Patterson turned on his heir-apparent and Watson was eventually fired. To quote Richard DeLamarter, the author of 'Big Blue', 'Humiliated, Watson took his revenge in the way he knew best. He would build a company even bigger and more powerful than NCR, and it would be under his complete control.' That company was IBM.

Richard DeLamarter spent eight years as a Senior Economist for the American Justice Department, working on the US Government's anti-trust case against IBM and then, to his surprise and frustration, the case was dropped by the Reagan administration. It seems that Mr DeLamarter was, understandably, incensed at this decision. After all, he had put in thirteen years work gathering information from many sources to find it dumped, as it were. So, rather than let it all go to waste, he decided to put it all into a book. 'Big Blue' is the result.

The facts and figures he has amassed are certainly impressive, not only in demonstrating how huge a conglomerate IBM has become but also in showing how important its business is to the economy of many nations. For, without the investment in a number of countries, including the UK to which IBM has committed itself those economies would be noticeably affected.

How did IBM get to become the mega-corporation it is today? Well, according to the author, through price discrimination, which is what happens when, over an extended period of time, a supplier charges different prices to different customers for what are essentially the same goods. The company also markets computers which are, he says, deliberately constructed so that only IBM peripherals are compatible. Of course, in time rival companies manage to manufacture compatible products but, before long, IBM have introduced a more advanced model and the whole thing starts over again.

But what Mr DeLamarter is more afraid of than IBM's business ethics is that it is — or that it may be, he says — in a position to dominate the world's communications networks. A substantial number of the world's commercial computers, from Buffalo to Beijiing, are supplied by IBM and it is now, he alleges, seeking to capture the 'high ground' in the worldwide communications market just as it has in computers. Mr DeLamarter may well be right, his credentials are impressive so he should know what well be right, his credentials are impressive so he should know what he's writing about. But reading 'Big Blue'. I get the impression that most of IBM's 'sharp practices' are just common-or-garden business acumen and as for taking over the world, does it really have the desire to do so? I would imagine that sometime in the future it may well have that ability and Mr DeLamarter is convinced that that is the Corporations ultimate aim, but it really does seem a little far-fetched.

'Big Blue' is certainly interesting, if only for the story of how one small US company has attained such worldwide importance. But the impression I received on reading this book was that Richard DeLamarter had written it with an attitude of 'If I can't get 'em one way, (through the courts), I'll get 'em another'. There is a petulant tone to his writing, which leads one to feel that he's overstating his case. However, it is true that IBM has the power to manipulate prices, charging one country more for products than another — which of course may be to IBM's shareholder's advantage but is to the disadvantage of the inhabitants of many poorer countries. And there are many more activities where IBM is typical of supranational corporations whose interests override those of the countries in which they work is a pity that Mr DeLamarter does not put the case against IBM — and case there is — with great conviction.

D.M.

Speaker for the Dead

Speaker for the Dead reviewed in November CCI won the Hugo for the best SF book of the year.

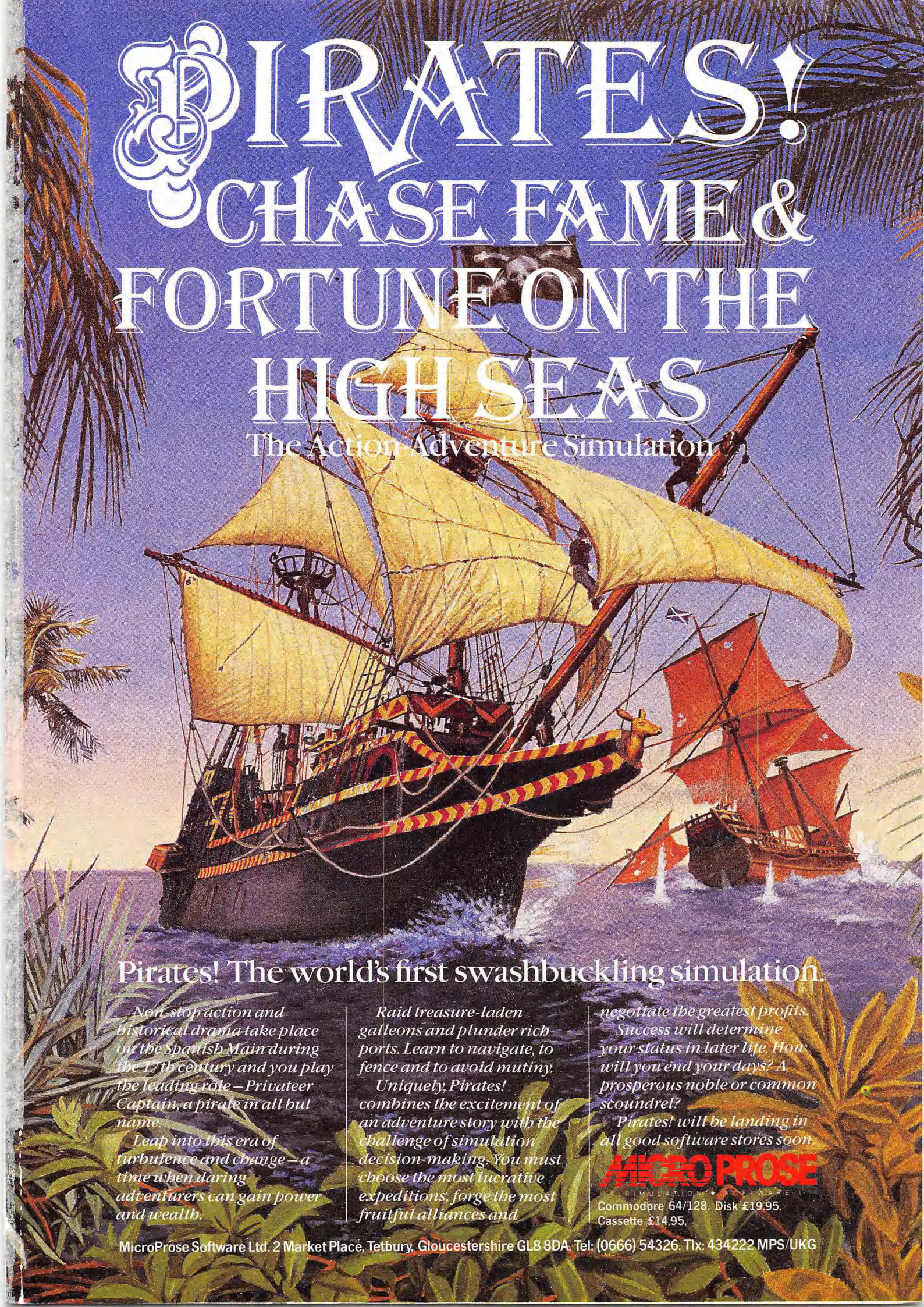
DPaint — Upgrades

Electronic Arts tells us that there is now available to owners of Deluxe Paint I an upgrade that lets them obtain DPaint II for just £29.95. This will interest all recent buyers of Amiga 500s in the U.K. as they recieved DPaint I free with the computer.

To get the DPaint II upgrade, you have to send in with the money the front cover of the DPaint I manual. If, like many early buyers of DPaint, you have a U.S. NTSC standard version, then you can exchange it for a PAL version by sending Electronic Arts the front cover of your manual and £5.

ADVERTISERS DIRECTORY

Access	120
Amiga Centre	111
AMS	57
Anco	83, 165
Ariadne Software	143
Athene Consultants	Magenta Pages
Avon Printer Technology	37
Brown Waugh Publishing	130
Budgetsoft	159
Byteback	167
Bytes & Pieces	184
Calco	160
CBS	53
Clik	21
Commodore Business Machines	10, 11
Computer Adventure World,	165
CRL	165
Culton Sales & Services	Magenta Pages
Database	74
Datel	49, 50, 51, 52, 32
Delta Pi	179
Digital Intergration	33
Dimension Computers	9
Do-Soft	94
Dr. Soft	63
Electronic Arts	78, 79
Electronic Services	Magenta Pages
ET Software	Magenta Pages
Evesham Micros	26, 27, 28
Financial Systems Software	167
George Thompson	143
G. McGovern	Magenta Pages
Hardwood Computers	44
H&P Computers	17
Heath Computers	Magenta Pages
Hi Voltage	117
Hugh Symons	147
ICPUG	160
Incentive	Magenta Pages
JCL Software	127
Lan Computers	164, 169, 170, 177
Martech	99
Matchrite	Magenta Pages
Melbourne House	123
Microgame	Magenta Pages
Microillusions	114
Micromedia	31
Micronet 800	12
Microsystems	125
Microprose	69, 71, 73, 187
Mirrorsoft	131
MPC	148
Nebulae Software	Magenta Pages
Newtek	155
Nu Soft	137, 140
Oxxi Inc.	139
Peartree Computers	36
Psygnosis	156
Precision	124
Ramsoft	179
Reactime Associates	127
Robtek	45, 81
R 'N' H Microtec	179
Screens Micro Computers	
Selec	184
Sixty Four Software Centre	23, 103
Software Club	Magenta Pages
Software Express	135
Software Projects	59
Spectra Video	89
Start Systems	37
Supersoft	OBC
Thinking Games	179
Tricomputer	145
Trident Enterprises	Magenta Pages
Trilogic	42, 43, 165
Trojan	160
Turtle Soft	105
Tynesoft	100, 25
U.S. Gold	3, 67, 92, 97
Wizard Software	94
York Electronic Research	37



Pirates! The world's first swashbuckling simulation.

Non-stop action and historical drama take place on the Spanish Main during the 17th century and you play the leading role – Privateer Captain, a pirate in all but name.

Leap into this era of turbulence and change – a time when daring adventurers can gain power and wealth.

Raid treasure-laden galleons and plunder rich ports. Learn to navigate, to fence and to avoid mutiny.

Uniquely, Pirates! combines the excitement of an adventure story with the challenge of simulation decision-making. You must choose the most lucrative expeditions, forge the most fruitful alliances and negotiate the greatest profits.

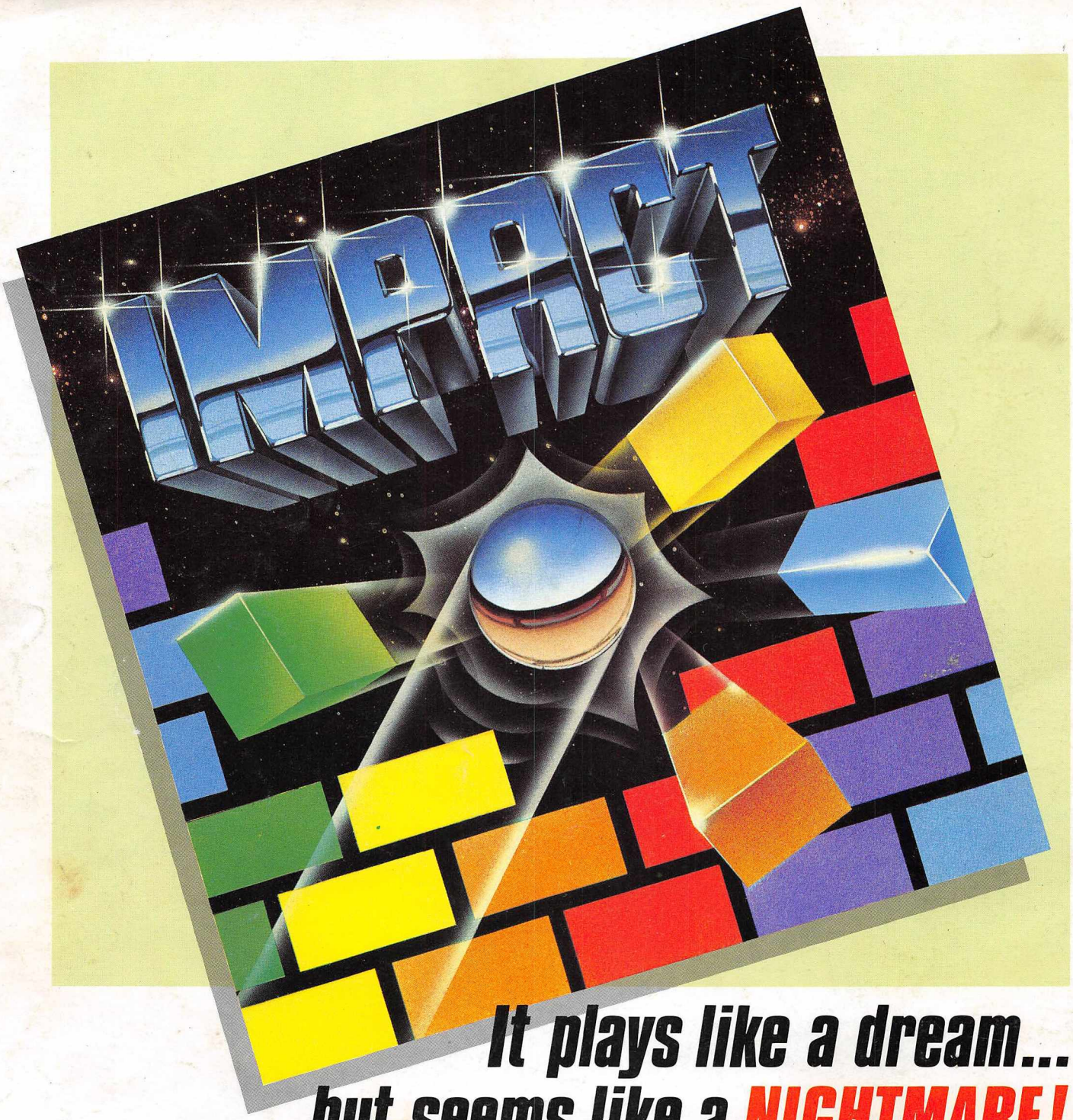
Success will determine your status in later life. How will you end your days? A prosperous noble or common scoundrel?

Pirates! will be landing in all good software stores soon.

MICRO PROSE
SIMULATION • SOFTWARE

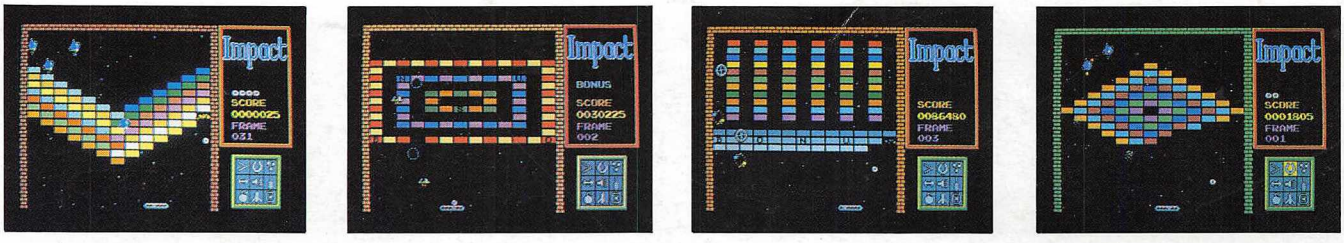
Commodore 64/128. Disk £19.95.
Cassette £14.95.

MicroProse Software Ltd. 2 Market Place, Tetbury, Gloucestershire GL8 8DA. Tel: (0666) 54326. Tlx: 434222 MPS/UKG



It plays like a dream... but seems like a NIGHTMARE!

TRAPPED – *in a 1970's arcade machine! Every escape route is blocked by a wall of brightly coloured bricks. Powerfully addictive, with 200k of digitized sound,* **IMPACT** *has 80 built in screens plus 48 that you can design yourself – as hard, as simple, as much fun as you like. Hidden on each screen are special tokens – catch them if you can. Use them to buy one of nine powerful weapons, or keep them until the end of the screen to score a bonus.*



Available now, price £14.95 for Amiga (512k min.) and Atari ST (requires 512k, mouse and colour monitor or TV).
Available now for CBM64, Spectrum and BBC (specifications vary).

Audiogenic Software Ltd., Winchester House, Canning Road, Wealdstone, Harrow, Middlesex HA3 7SJ. Access VISA ☎ **Tel: 01-861 1166**

AGT